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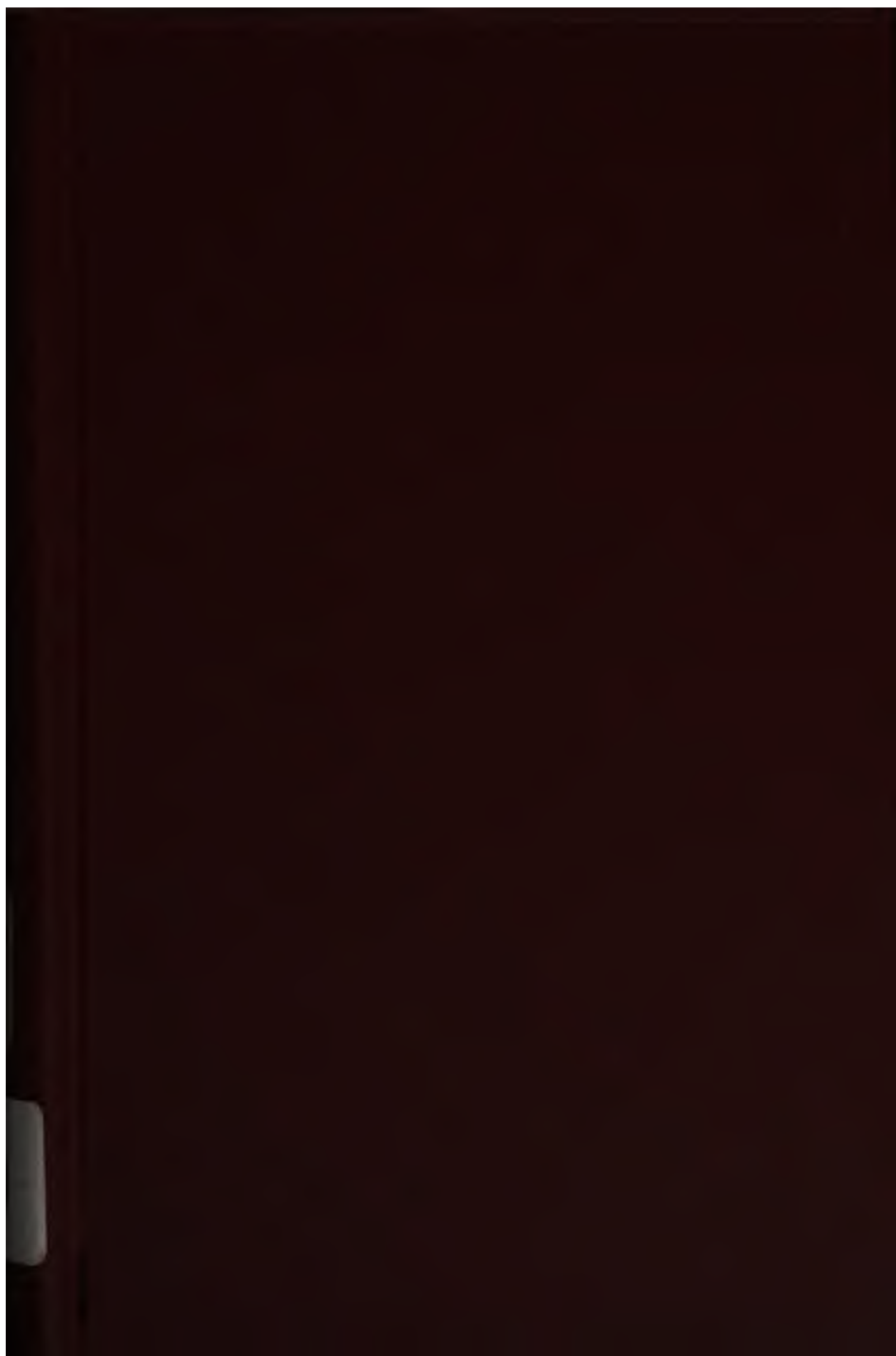
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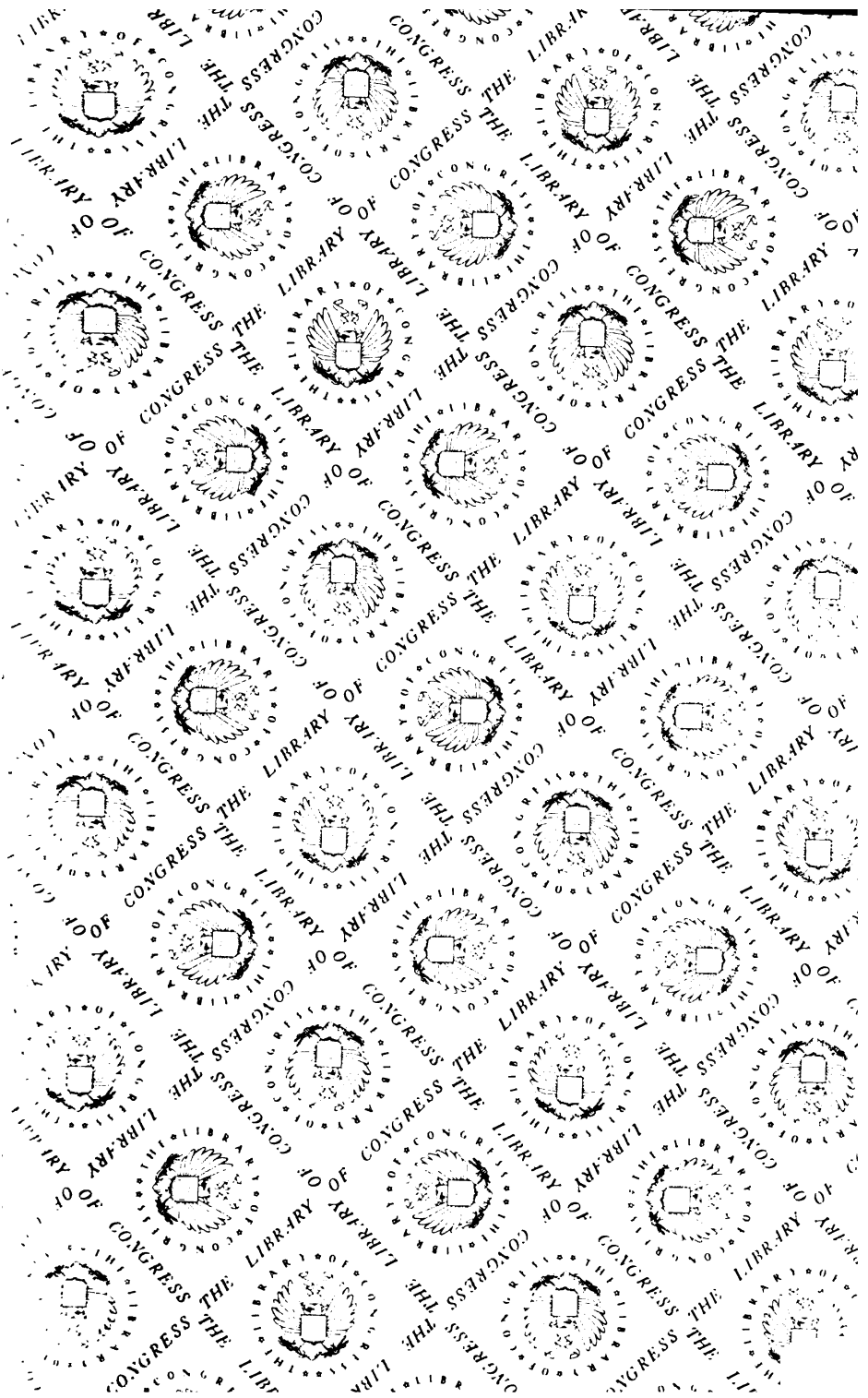
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This One



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JOURNAL
OF THE
BATH AND WEST AND SOUTHERN
COUNTIES SOCIETY.

FIFTH SERIES.

VOL. II.

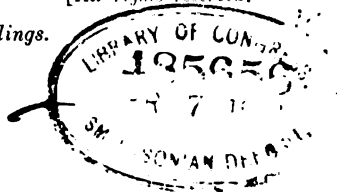
1907-1908.

WORK AND LEARN.

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53
187

"He that goes about to forward agricultural improvement must begin by finding out the true reason of what is called routine, or the 'custom of the country.' It sometimes happens that these reasons are only accidental, and then you may dismiss them fearlessly; but often it turns out that every-day practice rests on a solid foundation of facts; and then if you make an onslaught on local prejudices, they will be sure to beat you."

"The true course for the agricultural improver is, to take one step at a time, to gain a clear insight into facts by experience, not to try to go too fast, and to trust to the work of time."

"If practice which sets up to do without theory is contemptible, theory without practice is foolhardy and perfectly useless."—*From the Rural Economy of England, Scotland and Ireland*, by LEONCE DE LAVERGNE.

*Journal communications should be addressed to the Editor,
3, Pierrepont Street, Bath.*

CONTENTS.

VOLUME II.—FIFTH SERIES. 1907-1908.

ORIGINAL ARTICLES AND REPORTS.

	PAGE
I. In Memoriam. Captain the Hon. J. C. Best, R.N. By Thos. F. Plowman, Secretary and Editor.	1
II. The Sheep Stocks of the World By A. T. Matthews.	6
III. Prospects for Small Holders By W. E. Bear.	29
IV. Large and Small Holdings in Denmark By G. E. Lloyd Baker.	45
V. Some Faults and Fallacies in Dairying By F. J. Lloyd, F.I.C., F.C.S.	53
VI. British Forestry By W. R. Fisher, M.A.	63
VII. Dairy Farming: Fifty years ago and now By J. P. Sheldon.	86
VIII. The International Dairy Congress By G. E. Lloyd Baker.	102
IX. Report upon the Society's General Operations By Thos. F. Plowman, Secretary and Editor.	104
X. Interim Report of an Experiment for Ascertaining the Influence of Various Manures upon the Production of Mutton By W. Ashcroft, Steward.	109
XI. The Society's Experiments for the Improvement of Permanent Pasture By E. A. Rawlence.	120

	PAGE
XII. The Society's Caerphilly Cheese Experiments By Ernest Mathews.	121
XIII. The Society's Exhibition at Newport By Thos. F. Plowman , Secretary and Editor.	126
XIV. The Milk and Butter Test Classes at the Newport Exhibition .. By Ernest Mathews.	130
XV. The Cider Classes at the Newport Exhibition By E. W. Farwell , Steward.	135
XVI. The Society's Nature Study Exhibition By H. M. Cundall, I.S.O., F.S.A. , Steward.	138
XVII. The Society's Forestry Exhibition By Geo. Marshall.	141
XVIII. The National Fruit and Cider Institute By B. T. P. Barker, M.A. , and J. Ettle, F.R.H.S.	145
XIX. Report upon Analyses By Dr. J. A. Voelcker, M.A., F.I.C. , Consulting Chemist.	165
XX. Report upon examination of Plants and Seeds By W. Carruthers, F.R.S. , Consulting Botanist.	165

THE NOTE-BOOK.

Sterility in Mares and Cows	167
Green Manuring	170
Brewers' Grains as a Food for Stock	173
Milk Records: What they have done and what they may do ..	177
Tuberculosis in Cattle	184
Fat Lamb Production	186
Agricultural Research	189
Dairy Cows in Summer	194
Swine Fever	196
Manurial Value of Feeding Stuffs	199
The Fertilisers and Feeding Stuffs Act	201
The Veterinary Aspect of Tuberculosis	203

CONTENTS.

vii

THE FARMER'S LIBRARY.

	PAGE
1. Encyclopædia of Agriculture	207
2. Agricultural Botany	209
3. Co-Operative Banking	211
4. Books on Gardening	213
5. Grapes, and how to grow them	215
6. The Flower Garden	215
7. Chicken Rearing and the Management of Incubators	219
8. Woburn Experimental Fruit Farm	219
9. The Practice of Soft Cheese-Making	221
10. Country Readers	222
11. The Soils of Dorset	223

APPENDIX.

NEWPORT MEETING, 1907.

Judges	i
Awards	iii

PRIVILEGES, LAWS, OFFICERS, &C.

Objects of the Society and Privileges of Membership	lxxxiv
Terms of Membership	lxxxv
General Laws	lxxxvi
Council and Officers	lxxxix

List of Annual Exhibitions, 1852-1908	xev
Chemical Privileges	xcvii
Botanical Privileges	ci

DORCHESTER MEETING, 1908.

	PAGE
List of Judges	cii
Prizes for Stock, Produce, &c. .. .	ciii
Conditions and Regulations for ditto .. .	cxxi
Prizes for Poultry .. .	cxxx
Conditions and Regulations for ditto .. .	cxxxiii

FINANCE.

Summary of the Cash Account to December 31, 1907 ..	cxxxvi-cxxxvii
Detailed Cash Account .. .	cxxxviii-cxlix
Assets and Liabilities Account .. .	cl
Financial Result of Newport Show .. .	cli

List of Members .. .	clii
INDEX .. .	clxxxv



PHOTO. BY

ELLIOTT & FRY.

THE LATE CAPTAIN THE HON. J. C. BEST, R.N.

JOURNAL

OF THE

BATH AND WEST AND SOUTHERN COUNTIES SOCIETY.

Original Articles and Reports.

In Memoriam.

I.—CAPTAIN THE HON. JOHN CHARLES BEST, R.N.

By Thomas F. Plowman, Secretary and Editor.

From the time of its inception, the Bath and West Society has been exceptionally fortunate in its voluntary workers. The vitality which has sustained it during its long life, and such success as it has achieved in the course marked out for it, must be set down mainly to these shapers and moulders of its policy, who created and perpetuated its standard of work and responsibility. Instances among these of exceptional devotion to the Society's interests serve to bring forcibly home, from time to time, the strength of its hold upon those most capable of serving it and the disinterested zeal and enthusiasm it is able to evoke. During the past year, the Society has been sorrowfully reminded of this, and of the void which the loss of a single individual can create in its ranks, by the death of one of the truest and staunchest friends it ever possessed—Captain the Hon. John Charles Best.

Although he had been out of health for some time, and it was known that, early in last year, his illness had taken a serious turn, the tidings that he had passed away came as a painful shock to his fellow-workers. His store of energy had always seemed so inexhaustible, so active and alert was he in mind and body, that

those associated with him not unnaturally looked forward to a prolongation of that life and vigour which had done so much for the Society in the past. He was present at the Council Meeting at Bristol on January 29th, 1907, when there was no apparent abatement of his old keenness and ardour, as those who remember the prominent part he took in the discussions that day can testify. On his return home, the heart affection, to which he had been for some time subject, became more pronounced, and in the following March he felt obliged to lay down the various offices he had held so long and so much to the advantage of the Society. The Council would gladly have retained him in every post he filled, even though his old activity might necessarily be diminished. but it was contrary to his principles to permit this, as he would never accept any responsibility that he could not discharge to the very fullest extent. So the Council reluctantly had to bow to his decision, and its feeling was reflected in the following extract from the report of the proceedings of the Council held on March 26th, 1907 :—

“ A communication was received from Captain the Hon. J. C. Best, resigning his position as a Steward of the Yard and as a member of various Committees, on account of ill-health.—Sir J. Shelley said that they all received that communication with the deepest regret. The long and valuable services rendered to the Society by Captain Best were known to all of them, and how much they owed to his earnestness, his energy and his devotion. He begged to move that the Secretary be directed to convey to Captain Best the extreme regret with which the Council had received this intimation and their deep appreciation of the valuable services he had for so many years rendered the Society, coupled with an expression of an earnest desire for his restoration to better health.—This was seconded by the Marquis of Bath, who cordially re-echoed the remarks of the mover of the resolution, and the Chairman (the Earl of Radnor) in putting it to the meeting, said that Captain Best might rest assured that it was no mere formal expression of feeling but a sincere, deep and earnest demonstration of personal appreciation and regret.—The motion was unanimously passed.”

The hope of the Meeting was not fulfilled, and on May 25th. almost on the eve of the Newport Exhibition, Capt. Best passed quietly and peacefully away. The sad event was reported by the Council to the Annual General Meeting of Members held very

shortly afterwards, when expression was given to the sorrow so universally felt by all connected with the Society, whether as members, exhibitors or officials.

Captain Best joined the Society so far back as 1868, and succeeded his father, the Hon. and Rev. Canon Best, upon the Society's Council, as a representative of the Southern Division, in 1871. His capacity for good work was soon recognised, and the many and various offices he filled testify to the estimation in which his services were held. In 1876, soon after he had been added to the Implement Regulations Committee, he was appointed a Steward of Implements, and in 1887 he became one of the first Stewards of the Yard, under which name, and with enlarged duties, the Implement Stewards have since been known. He acted in this capacity up to and including the year previous to his death. Until within a comparatively recent period he was, at one and the same time, Chairman of the Allotment, the Contracts, the Implement Regulations, the Railway Arrangements, and the Show Dates Committees as well as an active member of Special Committees and on Deputations; for several years he was also Chairman of the Council Mess. At the Annual General Meeting of Members in 1898, he was, upon the recommendation of the Council, unanimously elected a Vice-President of the Society, in recognition of his long and honourable labours on its behalf.

In view of the many qualifications for usefulness he possessed, it is not surprising that his position in the Society was quite an exceptional one. His mental vigour and practical experience, his varied knowledge and resourcefulness, would go far to account for this. But, over and above all, there was a sincerity of purpose, a disinterestedness of aim and a charm of personality which won for him not merely the esteem but the affection of his colleagues.

He was a constant attendant at Council as well as Committee Meetings, and it may be safely said that no important departure was of late years made in the Society's operations or methods without his opinion thereon being first elicited. Whilst he was never a speech-maker, in the sense of delivering set orations, his remarks, though brief, were always to the point, and on occasions of exchange of courtesies with other public bodies he could give felicitous expression to the sentiments of those of whom he was the mouthpiece. At such times, especially when deputations from cities or towns had to be received, his fine presence, cheery voice and natural bonhomie, coupled with an abundant sense of humour, were a valuable asset to the Society and helped to bridge over many a difficulty. His area of knowledge was a wide one, for he

was well-read and well-travelled, and he had a special acquaintance with all matters pertaining to implements and machinery and also to railways. The information on these subjects with which his mind was stored was often of inestimable value to the Society.

During a long series of years, his was a most familiar figure to all regular attendants at the Show, whether on business or pleasure. for, with rare exceptions, he was there some days before the Yard was opened to the general public and until the gates were finally closed, keeping watch and ward in the Yard Steward's Office or in the main-entrance enclosure, ready to deal with any sudden emergency.

By implement exhibitors and their assistants, especially, Captain Best will be much missed, for he had a practical acquaintance with their difficulties, and so could make allowances for them. At the same time, anyone who thought he could play fast and loose with rules and regulations was very soon undeceived when he came to close quarters with the Captain; and there was too but a short shrift for those who fancied they could get the better of him by illegitimate means.

His standard of duty was a high one, and he lived up to it. Strong in his sense of what was right and what was due to himself or those he represented, he could be autocratic on occasion, but no one could be more generous in his allowances for others when the time came for the adjustment of differences. His naval training was no doubt largely responsible for the strong sense he had of the value of discipline and also fostered a habit of self-reliance which enabled him to arrive quickly at a decision and to act upon it as promptly. He was fearless and outspoken in the expression of his opinions, which sometimes bore hardly upon opposing views, for no one could say he had not the courage of his convictions; and when once he had made up his mind he was not easily moved therefrom. He was, in fact, a typical Englishman and a "strong" man, in that sense of the term which implies that, by virtue of force of character and power of grasp, his judgment was respected and his opinion looked up to. No one in the Society had a fuller opportunity of realising and appreciating this than myself, and on many occasions when it was necessary at short notice to adopt a decided line upon an important matter without waiting for Council or Committees, I was quite content, if I had his backing, to take action and run all risks. In the first place, I knew from experience that he would stand to his guns under any circumstances, and, secondly, I had a firm trust in the unbounded confidence the Council had in him.

In numberless quiet ways, he showed the personal interest he felt in the well-being of all who were associated with the Society's work, for, although he expected every man to do his duty, and did his best to ensure this, he was full of kindness and consideration when there was need of these qualities. To anyone whose association with him was so constant and so intimate as was my own—for an official connection had long ago ripened into a valued friendship—his loss means more than can be expressed.

He had not only a capacity for work himself but the power of inducing it in others. He was always on the look out for willing and likely hands, who were both encouraged by his kindly readiness to afford them every assistance and stimulated by his own example; for he never spared himself when he thought the interests of the Society demanded what he could give. He was instrumental in bringing into the Society to its great advantage, among others, an indefatigable helper in the person of his brother, the late Lord Wynford, whose long and valuable services as Steward of Horses and as chairman of the Stock Prize Sheet and Judges Selection Committees will not soon pass out of remembrance; whilst he provided for a continuity of the interest he and his father had manifested in the Society by enlisting in its service his son, one of the present Yard Stewards.

The Council, of which he had been so long a member, desired to give some permanent expression of their appreciation of the great services rendered by their deceased colleague and of their deep sense of the loss the Society had sustained by his death. It was, therefore, resolved that a copy of the following resolution, moved by the President (the Earl of Radnor), and seconded by Mr. C. L. F. Edwards, be suitably engrossed and framed and sent to Mrs. Best for her acceptance:—

“That the Council of the Bath and West and Southern Counties Society, at this their first meeting held after the lamented decease of their old friend and colleague, Captain the Hon. John Charles Best, a Vice-President of the Society and for many years one of its Stewards, desire to convey to Mrs. Best their unanimous expression of heartfelt sympathy with her and the members of her family in the great sorrow which has overtaken them. They also desire to record their grateful sense of the invaluable services rendered to the Society over a long series of years by the late Captain Best, for they believe no one could have served it in a spirit of greater devotion or with a higher regard for its best interests. His untiring energy,

his mental vigour, his practical experience and his varied knowledge were ever at the Society's disposal, which owed more than it is possible to express to his counsel and guidance. Whilst the members generally will long remember his unswerving attachment to the cause he had so much at heart, those who had the advantage of being more closely associated with him in the Council Room and the Show Yard will hold him in constant remembrance as the truest of friends and the most loyal of colleagues."

II.—THE SHEEP STOCKS OF THE WORLD.

By A. T. Matthews.

INTRODUCTORY.

The above title may appear a somewhat ambitious one for an article, as an imposing volume might be written thereon. Indeed, several standard works have appeared at various periods bearing on the subject, some of them being more or less historical in their character, while others describe the peculiarities and particular uses of various breeds of sheep, but such objects, it is almost needless to say, are far beyond the scope of this article.

In discussing the position of the sheep breeding industry in our own country, it will be necessary to refer to some of our leading varieties in order to make clear certain points which have an important bearing on market values, but in so doing every effort will be made to avoid even the appearance of bias in favour of any particular breed. The chief aim of the enquiry will be to ascertain, from a commercial point of view, the effect of foreign competition on the position of the industry at home, and to form an estimate, by the study of past events, of the probabilities of its future welfare.

THE POSITION AT HOME.

As a means of judging the extent of the ebb and flow of agricultural prosperity, there is no better guide than a careful observation of the statistical position as regards live stock, shown in the annual returns collected by the Board of Agriculture, and to those who are aware of its sad significance, a reduction by some millions in the nation's stock of sheep is a source of unmingled regret. The cutting down of the breeding flock below the maximum

number a farm is fairly able to carry is almost always a sign of financial distress: and not only is it a bad symptom in itself, but it is also the certain cause of further loss, being an instance of that disastrous operation known as killing the goose which lays the golden eggs. That this is true and fully recognised by farmers may be shown by a reference to the comparative numbers of sheep in the country at various periods since 1876—a time which may be regarded as one of prosperity, as the depression did not actually set in till some six years later. In that year the numbers stood at 32,262,579, and this total was fairly maintained till the terrible visitation of fluke disease in 1879, decimated our flocks. The number then fell to 30,239,620, the decline continuing till, in 1882, the minimum, 27,448,220, was reached. Then came the general fall in prices of grain, and with it the greatest agricultural depression of modern times. Attention was turned to live stock as the only remaining hope, and this may account for the gradual increase in sheep, which culminated in 1892, with the maximum for thirty years of 33,642,808. Then came the pinch of hard times, and, in spite of the price of mutton being fairly maintained, a shrinkage in sheep went on gradually for thirteen years without a break, till, in 1905, the numbers touched the lowest point since 1888. It is true that cattle showed a considerable increase during the same period, but much land was going down to grass; in itself a sign of loss of capital.

The contention that sheep stocks are a sure index of general prosperity may not be conceded by everyone, but what has followed since 1905 seems to go far to strengthen it. There is incontestable proof that about 1904 times began to improve for British farming. Granted that at first the movement was almost imperceptible, it is, nevertheless, a solid fact. How, otherwise, can we account for the gradual increase in the demand for farms? A few years ago a tenant could choose his holding and make his own terms, whereas at the present moment there is, speaking generally, no lack of applicants for a vacant farm. This fact alone is almost sufficient to establish the truth of the assertion that the clouds of depression are lifting at last, but the writer has reason to know that farmers, as a body, are much better able to meet their payments than they were three years back. Let those who doubt it ask any merchant who supplies farmers with requisites if such is not the case.

Accepting this as a pleasant truth, let us return for a moment to the numbers of sheep, and we shall find a welcome revival coinciding with an unobtrusive, but real, improvement in the general

position. In 1906 there was once more an upward movement in our sheep stock; a small one, indeed, being only 50,000 in Great Britain (excluding Ireland), but followed in 1907 by a substantial increase over the same area of very nearly 700,000. This is real progress in the right direction, and (provided that the lambing season is favourable), it would be quite safe to foretell that next June's enumeration will show a similar, if not a greater, advance. This anticipation is founded on the significant fact that over all the country, during the past autumn, breeding ewes have been in keen request at advanced prices at every fair and market. If this means anything, it is that farmers are now intent on breeding sheep and are straining every nerve to increase their flocks to the full capacity of their farms.

INDIRECT PROFITS ON SHEEP.

When speaking of the profits of sheep farming, those who are not practical agriculturists often appear to forget that in the major portion of England the flock is a necessity upon light arable land, and that a considerable part of the profit derived from it is found in the fertilization of the soil. At the present moment it is said that store sheep are costing too much for any prospect of profit on them for winter feeding. In the writer's view, this is doubtful, but even if true the sheep must be obtained, whether dear or cheap, for the roots must be fed off, and the profit should be found in the barley or oats which follow. There is an old saying that when a farmer carts off his roots he is performing two operations at once, as he is also carting his next year's barley. Thus an increase in the number of sheep per acre generally means better farming.

IMPORTS OF SHEEP AND MUTTON.

We now come to a very important section of our rather complex subject, and in its examination some points may arise of more than ordinary interest. In the year 1886 we imported 1,038,965 live sheep, and in 1906 this number was reduced to 103,359, which was a falling off of 935,606. But during the same period the imports of mutton increased from 653,447 cwts. to 4,082,756 cwts. Calculating the live sheep at 60 lbs. each, the net increase is reduced to 2,928,181 cwts. With the same estimate of weight per head this increase will be found to be the equivalent of nearly $5\frac{1}{2}$ millions of sheep. This is a fact which, taken alone, might well stagger the faith of the most hopeful British farmer in the

ability of the British producer to compete with such (apparently) overwhelming foreign supplies. What has just been said may be illustrated by relating what happened, some ten years ago, to a young farmer well known to the writer. He was paying a visit to London, and, amongst other sights, inspected the docks, where a large cargo of New Zealand mutton had just arrived. He was shown over the ship which had on board, I believe, some 200,000 carcasses. He had before read of such things, but the actual sight created such a panic in his mind as to engender the utmost despair of the future of sheep farming in England. He was the occupier of a capital farm, cheaply rented under a good landlord, and, moreover, was the possessor of a very nice flock of pure bred Oxford Downs, good enough for ram breeding. Feeling convinced, from what he had seen, that the knell of the home sheep breeder had sounded, he went home, gave notice to leave his farm, sold off his stock, and emigrated to British Columbia—a step which he has ever since bitterly regretted.

PRICES OF BRITISH MUTTON.

If the unfortunate farmer just mentioned could have foreseen the eloquent figures to be found in Part III. of the Agricultural Statistics for 1906, how differently he would have acted! The whole of the quinquennial averages, as they stand from the year 1866, when the boom in British farming was at its height, deserve to be quoted, but, to save burdening our subject with too many figures, it may be sufficient to say that from 1866 to 1870 the average price of best mutton at Islington Market was 8½d. per lb., and that from 1901 to 1905 it was 8¾d., so that, in spite of the enormous imports during the latter period, the price, during the first five years of the new century, was actually higher than it was forty years before. It is only fair to add that between 1876 and 1880 values were higher, the average standing at 10¼d., but still we have the astonishing fact that for the last twenty years the quinquennial average has never been lower than 8½d., where it stood in the eighties, and this has twice been exceeded. It may be naturally asked, "How has this come about?" and the answer is that all the imported mutton has simply gone in extra consumption. Being considerably cheaper than our native produce, our working classes appear to have come forward as consumers, and the only effect of foreign competition in mutton has been to create an entirely new class of buyers to whom mutton was before a prohibited luxury.

MODERN MARKET REQUIREMENTS.

A very great change has come over the character of the demand for mutton in England, especially in London, within the last generation. Half a century back we heard no complaint of our sheep being too large, or of the deficiency in the proportion of lean to fat meat. It is true that in those days the choice small breeds existed and were preferred by epicures, but the general public were quite contented with sheep weighing 80 lbs., and so the aim of the farmer was to produce animals of great weight with a distinct aptitude to fatten quickly. During the prosperous years which distinguished the last century, when commerce, at frequent periods, advanced by leaps and bounds, more luxurious living on the part of the middle classes was a natural consequence of the wider distribution of wealth. People became more fastidious, and demanded, amongst other things, a choicer quality of mutton, meaning thereby smaller joints and finer bone. This new attitude of the town consumers was but slowly recognised by the breeders, and even now in many districts is totally disregarded. As regards mere size, a concession to popular prejudice was made by preparing sheep for the butcher at a far earlier age, but this was caused chiefly by the discovery, on the part of the farmers, that early maturity led to quicker returns than the old plan of keeping sheep to be two years old. Consequently, "shearhogs" soon became obsolete, and their place was taken by fat "tegs." Improvement in breeding and selection, combined with higher feeding, soon enabled these young sheep to be brought out nearly as heavy at one year old as formerly the shearhogs had been at twice that age. In fact, those breeds classed as Longwools, which included the Cotswold, Lincoln, Romney Marsh, Leicester, and the Devon Longwool, soon became so unpopular in London that many breeders were alarmed, and could no longer withstand the temptation to cross those fine, old, quick-feeding breeds with the black-faced Downs, in order to catch the favouring breeze which blew so strongly in the direction of colour.

The crucial point in connection with modern market requirements is the extraordinary prejudice of the London public against heavy sheep. It is true that there are other large markets where this craze for small joints is far less predominant. If it were not so, we should have to say good-bye to the Longwools, but, so far, sufficient demand exists in the great manufacturing centres to find an outlet for them, and this being the case there is small danger of these breeds becoming extinct. Nevertheless we ought not to lose sight of the fact that London and its suburbs form a small

nation in themselves, which is the finest market in the whole world, and that the disappearance of it must be an incalculable loss to our breeders and feeders of sheep. In facing the unpalatable truth that this huge loss has virtually occurred, we may well enquire the reason of such a catastrophe, and whether it is one which admits of a remedy.

There are men who have long frequented the Metropolitan Cattle Market at Islington who can remember having seen 50,000 sheep in that vast enclosure on a Monday morning, and half that number was a normal muster, while, in these days, 10,000 is a full supply, and in the autumn it sinks to less than 5,000. On Monday, October the 14th, 1907, the numbers were 4,200, and what happened forms a powerful argument for use in this discussion. If the supply was absurdly small the attendance of buyers was proportionately smaller, the reason being that butchers knew too well that they would not find there what they wanted, *i.e.*, small, neat sheep, of 60 lbs. weight, to enable them to compete with the large supplies of Dutch carcasses then flooding the Central Market, the small size and good quality of which exactly commended them to the public taste, and secured for them a ready sale at about 7½d. per lb.

On that particular day, insignificant as were the numbers, they were chiefly composed of heavy, cross-bred wethers from Lincoln pastures and Kent Longwools, of from 80 to 90 lbs. in weight, together with others of a similar description. For these there was scarcely any demand. Though many of them were excellent mutton they were too big for the trade, while the few forward Hampshire tegs, about nine months old, were eagerly purchased at 9½d. per lb., because, except a few Cheviots and Scotch half-breds, these were the only sheep on offer suitable for the London trade.

Some Romney Marsh breeders still persist in trying to force off their 11 stone wethers in London, and frequently a salesman has 1,500 of them at this market, which, when sold at all, often realise, after paying carriage to London, a less price than they would have made at Ashford.

At the great Central Meat Market, where at least 8,000 tons of meat change hands every week, we find British produce conspicuous by its absence. It seems scarcely credible that English mutton is often seen in such small quantity as not to be worth quotation, while the market shops in which small Scotch carcasses are to be found can be counted on the fingers.

In this market the word "teg" has a special meaning, and is only applied to carcasses not exceeding 60 lbs., any over that weight being contemptuously alluded to as "sheep." Yet it

should be carefully noted, at this stage of our inquiry, that all the mutton passing this test of weight sells readily enough at nearly double the price of the best frozen meat, hailing from New Zealand.

The other day the writer was discussing with a salesman, who does a good business in Scotch mutton, the probable effect of the new process of preserving foreign meat—called sterilization—on the position of the British producer. He made the startling statement that British meat might be safely ignored because, in London markets, it was virtually a thing of the past!

It may be objected that this fancy for small joints, on the part of the Londoner, is not the chief or only reason of the exclusion of the English farmer from what ought to be infinitely his best market. It is true that London being a seaport, and a great distributing centre, is, therefore, the dumping ground for the importer, and that the cheapness of frozen mutton naturally causes it to displace the lower qualities of English mutton. It is also true that the action of the local authorities in the closing of four-fifths of the private slaughterhouses has had a disastrous effect on the trade in English meat. A far more important factor, however, in the struggle for the London trade has been the overwhelming power of organisation and the uniform character of the supplies. This suits the purpose of the great distributors, while the utter want of co-operation and system on the part of the home producer and his intermediaries renders it impossible to contend with the powerful rings controlling the great London centre of trade of which they have been able to establish a virtual monopoly.

If the custom of the six millions of people in and around London is ever to be regained for British mutton, two things will have to be undertaken and thoroughly carried out. First, a constant supply of that class of meat which the consumer demands must be secured by those breeders who place more value on keeping pace with the public taste than on the maintenance of certain breeds of sheep with which they and their fathers have been so long associated. Secondly, the trade must be organized by the establishment of proper abattoirs from which regular supplies, duly classified and in sufficient quantity to meet the requirements of modern trade, can be sent to the distributing markets.

All this may seem superfluous in view of what has been said of the value of British mutton being so well maintained, but, to be wise in our generation, we must consider the future as well as the past, and in doing so we can scarcely afford to ignore the extremely unsatisfactory conditions now existing in connection with the markets of London, and the possibilities of their future amendment.

THE VARIOUS BREEDS AND MARKET VALUES.

As already intimated, it is not intended to make any attempt at even an abbreviated description of the different breeds of sheep for which Great Britain is so deservedly famous. That task has been already skilfully accomplished, in book form, by Professor Wrightson, Mr. Wallace, and many other writers, and fascinating as the subject is to the writer, who has spent his life amongst sheep, attention must here be confined chiefly to the commercial side of the question.

The improvement in the quality and general character of British sheep since the days of Bakewell is, indeed, wonderful, and the progress made during the last fifty years, especially, has been phenomenal. Professor Wrightson, in his handbook on sheep, says that Robert Bakewell commenced the improvement of his county breed of sheep in or about 1755. He was the first to perceive the fact that the properties of parents may be transmitted to their offspring till fixity of type is the result. He laid the foundation, chiefly by selection, of the Improved Leicester which, a grand sheep in itself, afterwards became the means by which the various breeds of white-faced longwooled sheep were founded. The Lincolns, Cotswolds, Romney Marsh, and Devon Longwool all owe their chief merits to the influence of the Leicester, as improved by the genius of the great Bakewell. All these five varieties, together with the Wensleydale, bear so strong a family resemblance to each other as to render them almost indistinguishable to the casual observer. In size, length of wool, and great aptitude to fatten they are very similar, differing only in such minor points as the shape of the head and the staple of their wool. They are essentially the sheep of cultivation, and have occupied a very high place in the esteem of agriculturists all over the world. The high prices given by foreigners and British colonists have become a household word, and they have made their mark in all those countries now competing with us in our own markets.

From the time of Bakewell, the improvement of these breeds went steadily on, but nearly a century elapsed before much was done to improve the other distinct section of the breeds—known as Downs—and, by crossing in various directions, to build up and establish those new ones, now taking front rank as pure bred and distinct varieties.

LEICESTERS.

Few only of this breed are now to be found in the county from which they take their name, but they are still in consider-

able strength in bordering counties to the North. They are seldom, if ever, seen in a London market, for the sufficient reason that they sell better nearer home. Their first cousins, the Border Leicesters, originally produced by crossing the Improved Leicester with the Teeswaters, have become a separate breed, and, in some respects have outrivalled them. These Border Leicesters have assumed great importance and value for crossing purposes, chiefly with the Black Faced Mountain, for which they have been found invaluable, while numbers of large flocks are kept in a pure condition.

The produce of this cross provides us with a substantial factor in the problem, in connection with the London supplies, for the lambs and tegs of this sort which come South have been found at unqualified success. At certain seasons, particularly in the summer and early Autumn, they are seen at Islington in considerable numbers, and they always sell at the top price of the day, beating even prime small Downs, except, perhaps, a stray pen or two of Southdowns, while, as for ordinary half bred wethers, the difference in price is generally at least 1d. per lb. More important than this is the unique position held by them at the Central Meat Market, where they are, practically, the sole representatives of the highest class of British mutton.

Some Northern farmers keep the female produce of these first cross sheep for breeding, which are again mated with Border Leicester tups.

LINCOLNS.

This celebrated breed can claim to be the heaviest in the United Kingdom, and it is stated that specimens of it have been fed up to 90 lbs. per quarter; its wool has been measured at 21 inches in length, and the weight of a ram's fleece may touch 30 lbs.* Like other Longwools, it owes much to the Leicester crosses, but the improvement was effected so long ago that the obligation is almost forgotten. Immense sums have been paid for Lincoln sheep for export to the Argentine where the demand for these great wool producers seems almost unlimited. They are also largely used for crossing with the Suffolk and other Downs, but it need scarcely be said that London rarely sees a Lincoln, while even their half-bred progeny are much too large to fetch their intrinsic value in that city of fastidious taste in mutton. In Lincoln market, on October 8th last, prime wethers of this breed were sold at 8½d.

* See Wrightson's Handbook, No. 1.

per lb. and fat ewes at 6d., and it is certain that if offered in London on the same day and a chance customer had been found for them, the price would not have exceeded 7d. for the best of them. With such a market at home what better than this can the breeders wish for? So long as it lasts they can well afford to ignore London altogether.

COTSWOLDS.

These sheep are said to be one of the most ancient of our breeds, but this applies to little more than the name, for, like the Lincoln, which it so much resembles, it was, though long ago, improved by crossing out of all recognition. It is rather smaller in frame than the Lincoln, but the quality of its flesh and superfluity of fat on the back place it quite in the second rank as a butcher's sheep. Some fifty years ago many of this breed were sent up to Islington, but about that time the demand for this class of mutton began to slacken, and, as it was observed that Downs and half-breds made so much more per lb., many breeders wavered in their allegiance, and began to use Hampshire tups. The ram breeders stood their ground, but the rank and file of the farmers gradually deserted the old sort till, in these days, their numbers have greatly diminished. It is scarcely possible, however, to imagine the Cotswold Hills denuded of a breed which so long ruled supreme all over their bleak slopes, and which still has its great uses. It stands alone amongst the breeds of this class as being essentially a race of hill sheep, and when transferred to low and damp localities fails to maintain its character. Fully one half of the credit attached to the foundation of the Oxford Downs must be conceded to the Cotswolds, which are still in demand for crossing purposes both at home and abroad.

KENT LONGWOOLS.

Unlike the Cotswolds, the Romney Marsh, or Kentish Longwools, have their principal habitat on the flat marshes which ages ago were reclaimed from the sea, and, during the summer the passenger crossing the district by train cannot fail to be struck by the wonderful sight afforded by the thousands of these animals scattered over the plain as far as the eye can reach. Large flocks are also kept on the Isle of Sheppey and in many parts of Kent. They were formerly considered a somewhat coarse and plain race of sheep until improved by the Leicester, but now are as fully entitled to be considered a distinct breed as any of the Longwools. They are not very prolific breeders, one lamb to the ewe at the end of

yeaning being considered a very good fall. The leg of mutton is less developed than that of the Cotswold or Leicester, while their large frames and heavy proportion of fat are inconsistent with modern ideas of quality. Yet they are admirably adapted to the soil and climate of their own district and retain a strong hold on the estimation of their many breeders. Large droves of these sheep are annually removed for the winter into the adjoining county of Sussex.

DEVON LONGWOOLS.

Professor Wrightson tells us that this breed was known for many centuries as the Bampton Nott "which was a large framed, heavy-woolled sheep, white-faced and hornless." Repeatedly crossed in the past with both Leicester and Lincoln, it is now fully established as a separate breed, though differing very slightly in appearance or character from the other leading Longwools.

WENSLEYDALE LONGWOOLS.

Descended from the old Teeswaters, and bearing a close family likeness to the Leicesters, these sheep need no further description. There are many people who would say that their chief superiority over other Longwools consists in a more even distribution of the fat and that the latter is less excessively produced in proportion to the lean. At certain seasons, notably when shearing begins in the spring, they appear in force at Islington market, and although they do not approach the Downs and cross-breds in value per lb. they sell the more freely for the reason above given. It may be safely said, however, that no breed of this class offered in London can expect to come within a penny per lb. of the top price of the day, while the most reliable quotations prove that they fetch more money at the nearest market in their own district.

SOUTHDOWN.

If there is really any breed in this country having a well founded claim to be called of pure descent in the sense that at the era of general improvement no alien crosses were used, that breed must be the Southdown. At any rate, there is no evidence that in the great advance effected in the days of the Ellmans, any other means were used than that of careful selection. The wonderful

uniformity of type distinguishing this most interesting race forms a strong argument in support of the claim to unmixed descent, and the distinction is one of which its fanciers are naturally proud.

In dealing with the Southdown, we are brought face to face with one of the most important phases of our subject, inasmuch, as amongst our many English breeds it stands unchallenged as holding the palm for quality. Let us suppose, for a moment, the coming to pass of an almost impossible event, viz., the selection by the mass of English sheep farmers of a breed of sheep best calculated to meet the growing demand for small choice mutton with a view of re-capturing the London trade. In such a case who can doubt that the pure Southdown would be the prime favourite? There is, however, an insuperable bar to the establishment over all England of one uniform, national breed. This is found in the fact that, although ours is a small country, the variations of altitude, soil and dryness of climate are so great that different districts are naturally suitable to different types, and, unlike the Shorthorn among cattle, there is no breed of sheep which can be said to be perfectly at home everywhere. We have, of course, several which will thrive away from the cradle of their race, but, with rare exceptions, they gradually lose their perfection of type and tend to adopt that which is peculiar to their new home.

This seems, to the writer, the strongest possible argument against violent changes, and, in a broad sense, the safest policy for a flock-owner is to take this wonderful natural law as a guide, and to be satisfied with the sheep which time and experience have proved to be most suitable for his district.

The whole subject is so complex that it behoves those who treat it to do so with much caution. For instance, the beautiful appearance and choice quality of the Southdown are too well known to need description, and it is no wonder that they have always been regarded as the rich man's sheep, the most ornamental for the park and a luxury for the table. But does it follow from this that it is not also a tenant farmer's sheep? Certainly not, may be the confident answer, if we confine the application of such an opinion to the occupiers of the native hills of the breed, and to certain districts in other parts of the country of very similar character.

The controversy which has often prevailed as to the relative profits on large and small sheep must, in the end, be decided by the weight per acre which certain farms of either class will carry, and this point has been absolutely settled as regards the Sussex Hills.

A sender from that district to Islington market assures the writer

that he can keep five Southdowns to three of any heavy breed. while Arthur Young writes that in 1788, Mr. Ellman, on 500 acres, had 700 ewes, lambs, and wethers in winter, and 1,450 of all sorts in summer besides 140 head of cattle. We have here conclusive proof of the suitability and great value of the Southdown at home, and the question suggests itself whether its use could not be widely extended. On low lying richer soils they have been repeatedly tried, but it has been found necessary for their breeders to resort to their native district for sires in order to maintain their true type. Yet the famous Mr. Jonas Webb not only found them perfectly at home on the Cambridgeshire Downs, but, under his excellent management, his flock actually improved and became the means of maintaining, in a great measure, the true type of the breed.

If this could be done so successfully in Cambridgeshire surely there must be other districts equally good for the purpose. Indeed, it is said that the Southdown will thrive wherever the soil will grow heather, and, if that be true, there must be a wide area in the South and West of England suitable for the cultivation of such a profitable breed.

HAMPSHIRE DOWNS.

This is the first of the comparatively new breeds to come under our notice, not because it is entitled to any precedence over others obtained by direct crossing followed by long and careful selection, but because it was the earliest of them to secure recognition as a distinct breed at our leading shows. Springing originally from a numerous, but coarse stock called Wiltshire Downs, the pioneers of improvement used any materials they thought best for their purpose, the Southdown being the prevailing element resorted to. The use of further alien blood was then discarded, and a long period of selection has now for many years placed them in the very first rank as rent paying sheep. They have attained to a high degree of uniformity of type so necessary for any breed aspiring to be considered "pure." Less symmetrical, perhaps, than the Southdown, they are larger in frame, with darker faces and shanks, and produce an excellent quality of mutton. Hardy and very prolific, they are widely appreciated, and, as early tegs, they command a ready sale in the Metropolitan market at first quality prices, while their lambs are eagerly sought after and frequently fetch over 1s. per lb. They share with the Cotswold the honour of being the progenitors of the Oxford Downs.

OXFORD DOWNS.

When the late Mr. Samuel Druce, of Eynsham, Oxon, Mr. Gillett, of Southleigh, and others, founded this breed by crossing the Cotswold with the Hampshire Down, their efforts were watched for many years by the old breeders with very doubtful approval, and long after they had assumed their present title the Cotswold men persisted in calling them "half-breds." The first cross was a violent one, and to establish a fixed and uniform type was a work of many years, partly owing, perhaps, to the fact that when it was commenced the Hampshires themselves were a comparatively new breed. It was nearly thirty years before they were recognised by the R.A.S.E. as a distinct breed and awarded separate classes, but by 1862, when this concession was granted, the old established flocks had become fairly uniform. Some confusion, and no little friction, was caused by the action of many farmers who crossed their Cotswolds with a Hampshire tup and then dubbed the produce "Oxford Downs." However, no one can now dispute the right of the breed to a high rank among distinct varieties and enough has been said on the history of its early struggles. We are more concerned with the position it now holds with regard to its value as a market sheep and its profit to the farmer as a producer of mutton and wool. The character of the latter is quite different to that of the Hampshire or Shropshire, in fact, it is considered to excel as a heavy fleece producer. A point in its favour is its prolific breeding, two-thirds of the ewes often bringing twins. They are accepted in London market as "Downs," their dark points passing them as such, but the tendency to put on fat, derived from their Cotswold semi-origin, prevents them from taking the very first place for quality.

SHROPSHIRE.

This is essentially a practical farmer's sheep and, like the foregoing, was obtained by crossing and selection. It is said to be very thrifty, and is extremely popular in a large district extending over portions of several counties. Uniform in type, and of neat and handsome appearance, it excites enthusiasm in its supporters, and the annual Shropshire ram sales are quite notable events, while it frequently happens that the breed is more largely represented than any other at the great shows. It is rarely seen in London, where it would be classed by butchers as having about the same value by weight as the Oxfords. It no longer claims the title of "Down."

SUFFOLK DOWNS.

In the Suffolk we have a splendid breed of butcher's sheep. They carry plenty of lean, and have the reputation of "dying" well, that is, weighing well according to their external appearance. They are extremely uniform, and in no British breed is the type better fixed. Their size is moderate, and as tegs of from ten to twelve months they make a good show at Islington, where they are in great favour. In quality they approach the Southdown, but the face is darker, and quite bare of wool. Some flocks of these sheep are said to date back to 1810, but since that date an infusion of Southdown blood has added much to their quality. They cross well with the Lincoln, and the produce make fine sheep of great weight and heavy fleeces.

CHEVIOTS.

This interesting and choice breed of small, hornless, white-faced sheep takes its name from the Cheviot Hills which have been its home from time immemorial. Little is known of its origin, but it is recorded that about 150 years ago, Mr. Robson, of Belford, began to work out its improvement by crossing with Lincolns. It was a great success and the result has been the establishment of the breed as we now see it. It is a long sheep, in proportion to its size, and of first-rate quality of mutton, in fact, amongst the small breeds of these islands, we have none that surpass it for excellence, from the epicure's point of view, and it is a prime favourite with London butchers. Being quicker feeders than the Black-Faced Mountain, there was a time when the Cheviot threatened to displace entirely that hardiest of races, but a few hard, long winters at the close of last century entirely checked that movement, and again gave the ascendancy to the black-faced, especially in those mountainous ranges where little more than heather will flourish. They are sometimes brought from the North as stores and fed for London in Midland pastures.

BLACK-FACED MOUNTAINS.

For hardiness of constitution and picturesque appearance the Mountain sheep of North Britain have no rivals.

The writer has never had the privilege of inspecting flocks of these sheep at home, and it would be unfair to judge them from a practical point of view from the few examples which come south. It may be prejudice on their part, but the London butchers are by no means enamoured with these romantic looking animals which are occasion-

ally offered them, chiefly, perhaps, because, deservedly or not, they have a poor reputation as weighers after slaughter. According to Mr. Archibald they frequently attain the weight of 16 lbs. per quarter, and sometimes 20 lbs., but it has never been the writer's lot to see any exposed for sale in our Southern markets approaching these weights.

In one respect at least, these mountain sheep occupy a position of first-rate importance, for they live and thrive on the vast mountainous tracts of Scotland, where any other breed would starve, and so fill up a gap in the area devoted to the production of sheep, which, without them, would be entirely wasted. In one other way, too, these sheep are extremely useful, and it is one which points to the supposition that their breeders make no claim to their being, in themselves, first-rate mutton sheep. A very large business is done by crossing this breed with the Border Leicester, and here we have a solid result in the direction to which these remarks are really devoted, viz., that of showing how our various breeds and crosses are catering for the different classes of demand for mutton. The produce of the Mountain-Border-Leicester cross is almost the only variety able to hold its own in the London Central Meat Market. Compared with the numbers of frozen foreign carcasses surrounding them, of course they seem few enough, but there may always be found a goodly show of them at certain shops within the walls of that vast emporium, where the importer almost monopolizes the space. In fact, they hold the bridge between the British producer and the London consumer.

DORSET HORNS.

In the Dorset Horn we have a race of sheep very distinct in appearance and characteristics from any other. They are of ancient race, and the maintenance of the horn, together with a white face and short wool, appear to show that such improvement as has been effected in their breeding has been the result of selection rather than crossing. Their great value to the country largely consists in the peculiarity of their breeding proclivities, in which they stand alone, and it forms for them a most valuable asset. In the absence of the Dorset Horn England would have to do without its earliest supplies of lamb, because they are the only breed which can be relied on to produce lambs in September. There is consequently a great demand for the ewes in districts remote from their own, for the special purpose of bringing out fat lambs at Christmas, and through the months of January and February.

Later in the season they have to take second place in the markets, as the quality of the Hampshire lambs is considered superior. It is a striking example of the early bird catching the worm, and also goes to prove the truth of the axiom that every breed has its peculiar use.

CONCLUDING REMARKS ON BRITISH BREEDS.

We have now touched on nearly all the most representative breeds, avoiding, as far as possible, any invidious comparisons. There are several other varieties to which allusion might properly be made, and, doubtless, they possess, one and all, some particular value, especially in their own districts, but enough has been said on this part of our subject if we are to avoid repetition.

The sheep stocks of this country possess but a very limited authentic history, and little is known of their characteristics in early times. We may, however, be well content with what we know to have happened during the last 150 years, that is, since Bakewell began to create the improved Leicesters. From that date steady progress was made, which for the last half century has been marvellous. Not only have several new breeds of great merit been established with brilliant success, but old breeds have been immensely improved by selection. In the yield and quality of wool there has been a great advance, but still, perhaps, in the weight of the carcasses, a greater advance, as also, taking the average of all breeds, in the quality of the mutton. Thus the British farmer has been placed in a far better position for that keen competition with the foreigner which the last generation could never have foreseen, but which has come upon their children, who, by the possession of the very best material that enterprise and skill could possibly produce, have been prepared for the struggle.

THE SHEEP OF OTHER COUNTRIES.

It is now time to pass in brief review, so far as reliable data will permit, the sheep stocks of other lands, premising that it is not to be expected that we shall find ourselves on such firm ground as when we are dealing with our own. In his introduction to the *Agricultural Statistics of 1905*, Major Craigie, in speaking of the reports of crops and live stock abroad, uses the following words:—"The cautions which I have had occasion to offer in earlier reports as to the degree in which comparisons between the statistics of foreign countries and our own may be regarded as strictly legitimate, must be again repeated. Many improvements have been effected in the official

information which year by year becomes available, due to the success of the efforts made by the International Statistical Institute in promoting the friendly relations now happily established between the officers responsible for the statistical data in different parts of the world. Nevertheless, essential differences in local circumstances, in the methods and periods of enquiry, and in the classifications used must not be overlooked." Going further afield than the ground covered by these words (which should be read with due regard to what lies between the lines) we may say at once that the information at present possessed by us as to the number of sheep kept by many nations is almost nil. What do we know of the stocks of China, for instance, a country in which even the population itself can only be roughly estimated? Our ignorance in this particular case, however, is not a serious matter because it has no bearing on our own relative position and does not affect our markets, but when we find that in Argentina and Australia, two countries which send us large quantities of mutton, the numbers published are far from being up to date, and of somewhat doubtful reliability, it is obvious that any conclusions we may draw from such information must be only of an approximate nature. For practical purposes, however, if we can arrive at a fairly accurate knowledge of the progress and statistical position of those countries which compete with us in our own markets, and learn something of those who are now, or may become, importing countries like ourselves we must surely be in a position to form a reasonable estimate of our prospects, for at least some years to come, with regard to the maintenance of present values, and the consequent profits of sheep farming at home.

ARGENTINA.

This country is generally considered one of the best in the world for sheep farming, but unfortunately no regular returns are collected, and, although there can be no doubt that stocks are rapidly increasing yet no figures are available since 1902 when the numbers were about 74½ millions. The increase in the exports of meat from Argentina to this country since 1902 prove that great progress must have been made in the production. In five years they have nearly doubled, and now stand at nearly 4½ million cwts., of which in 1906 nearly 1½ million cwts. was fresh mutton. We must, therefore, regard Argentina as one of our most serious competitors, with her stock of sheep increasing at an unknown rate.

AUSTRALIA.

The total number of sheep in the British Empire in 1905 amounted to 157 millions of which about half were found in our Australasian colonies. In the year 1901 Australia alone held 72½ millions, but the disastrous droughts to which the country is occasionally liable have, since then, caused great havoc, reducing the numbers and checking progress in sheep breeding. Of course the Australians are not people to be easily "downhearted," and they are now rapidly making up lost ground. Their total exports of dead meat increased from under half a million cwts. in 1902, to nearly three quarters of a million in 1906, but these figures include beef. The population of Australia increases but slowly, and, notwithstanding occasional drawbacks from drought, it is impossible to doubt that her output of mutton must gradually increase, at times in leaps and bounds, but with severe checks at certain intervals. It is probable, however, that for the next year or two, there will be no very great increase in shipments.

NEW ZEALAND.

The agricultural position of New Zealand is somewhat peculiar. Possessing the enormous advantage of an equable and temperate climate and fertile soil, the quality of her exports enjoys a high reputation in this country. Her mutton forms no exception in this respect, taking the first place as frozen mutton in the British markets, the "Canterbury" lamb being especially esteemed. So satisfactory has this trade been found by the farmers of the new Dominion that they have been shipping too freely to admit of any increase of stock. In 1902 they possessed 20½ million head; in 1903 the numbers fell to just under 19 million; and in 1904 there was a further fall to 18½ million. After a recovery of nearly a million in 1905, the downward course was resumed in 1906, when the numbers were 1¼ million less than in 1902. High prices for mutton and lamb may not have been the sole cause of this check to sheep breeding, as dairy farming has been making great progress, and this may have modified the system of farming. Altogether it does not seem at all likely that New Zealand will increase her exports of mutton for some time to come.

THE UNITED STATES OF AMERICA.

We now come to a striking example of the fluctuations to which sheep farming in various countries seems peculiarly liable, and it may be taken as a warning by those who too confidently foretell the

future of the world's food supplies. Only ten years ago, if anyone had ventured to hint at the possibility of a decrease of 19 millions in the space of two years, after 1903, of the sheep of America, he would have been laughed to scorn. But the seeming impossible has happened, and, at the present time, the States appear more likely to become an importing than an exporting country. In the four years their exports of live sheep to this country have fallen from 233,000 to 84,000, which is almost a negligible quantity.

CANADA.

Sheep farming in Canada is carried on to a very small extent and is now rapidly declining. It is practically confined to the Province of Ontario, where the numbers in 1902 were $1\frac{1}{2}$ million, and these have since steadily diminished to $1\frac{1}{3}$ million in 1906. It must, therefore, be many years, even if sheep came into favour, before Canada could do much towards supplying the old country with mutton.

HOLLAND.

Although the number of sheep in Holland is very small, and appears to be decreasing, yet the fact of that country lying so near to our shores, and, therefore, being able to send mutton over here fresh killed without freezing or refrigerating, gives its importations a peculiar interest. Scarcely any mutton is consumed at home, and, therefore, the surplus comes to London, where it commands a price nearly equal to that of English, while the small tegs and lambs sometimes almost rival the best Scotch in value. This is significant as showing that, after all, Londoners much prefer fresh mutton to frozen, and, further, that the price per stone is regulated, in the Central Market far more by the size of the joints than their quality. London, being the natural port of landing from Holland, is virtually the only market affected by this trade, the total volume of which is insignificant. In 1902, the Dutch possessed 709,000 sheep, but in 1904 only 606,000. Except, therefore, so far as London is concerned, we may venture to ignore the Dutch as serious competitors.

GERMANY.

The German Empire cannot be classed amongst the great sheep countries, inasmuch as within its wide boundaries in 1902, it only mustered a little more than $9\frac{1}{2}$ million head, and even that small number had declined in 1904 by $1\frac{1}{2}$ million. If the Germans as a

people were fond of mutton they would be large importers, but like the Dutch they consume very little. Some day they may cultivate the taste, and then a large portion of the English imports would be diverted. Meanwhile they sometimes send us a few small carcasses, but this season even these failed to appear.

AUSTRIA-HUNGARY.

The dual kingdom is another of those countries that can be passed over with brief reference as having no influence upon our own trade in sheep or mutton. She neither exports nor imports at present. Imports of dead meat are forbidden, the landed interest having hitherto successfully opposed a movement in the large towns in favour of admission. In 1902 there were about $11\frac{1}{2}$ millions of sheep in the country, and this is the latest record with which we have been furnished.

FRANCE.

The records of the last thirty-two years show that France has been increasing her cattle at the expense of her sheep, which have been steadily decreasing during that long period. In 1875 there were $23\frac{1}{2}$ million head against only $17\frac{1}{2}$ million in 1904. It is sometimes said that sub-division of land into very small holdings has an adverse effect on the breeding of sheep, and the position of the sheep stocks of France lends colour to this theory. as much of that fertile country is cut up into extremely small farms.

OTHER COUNTRIES.

There are several other countries where a considerable number of sheep are known to be kept, but, besides those already dealt with there are none which have a surplus for exportation. The last available returns give Italy, $6\frac{2}{10}$ millions; Algeria, $8\frac{2}{10}$ millions; Bulgaria, $6\frac{2}{10}$ millions; Cape of Good Hope, $12\frac{6}{10}$ millions; British India, nearly 18 millions; Mexico, $3\frac{1}{2}$ millions; Roumania, $5\frac{1}{10}$ millions; Spain, 13 millions, and Uruguay, $17\frac{6}{10}$ millions. Beyond these, the world has many sheep scattered over its surface in lands where no census is ever thought of, and, perhaps, may not be for generations to come. However, we have here sufficient material by which to judge of the present rate of progress or retrogression in those civilized portions of the globe which are open to commerce and affect the supply and demand of Great Britain.

WOOL.

The Board of Agriculture have just published a pamphlet on wool containing much valuable information, not the least interesting of which is given in a table showing the comparative yields of British breeds of sheep. No less than twenty-six varieties are tabulated including nine crosses, but it would occupy too much space to quote the table in full. A few of the yields of those breeds which are considered the best wool bearers may, however, be given. The information was obtained from certain wool buyers, the number of fleeces of each breed is stated, and the weight both of washed and unwashed wools, after striking the average. Beginning with the Leicester and Lincoln, which are coupled together, we find they head the list with $10\frac{3}{4}$ lbs. Next in order come the Devon Longwool, with $8\frac{3}{4}$ lbs. Then follow the Lincoln crosses, with Hampshires, Oxfords, or Shropshires, averaging $8\frac{5}{8}$ lbs.; the Cotswold, 8 lbs.; the Suffolk and Lincoln, or other Longwool cross, $6\frac{3}{4}$ lbs.; Oxford Down, $6\frac{1}{4}$ lbs.; Cheviot and Leicester cross, $6\frac{1}{4}$ lbs.; Kent or Romney Marsh, 6 lbs.; Devon and Hampshire cross, 6 lbs.; Shropshire, $5\frac{5}{8}$ lbs.; Hampshire, $4\frac{7}{8}$ lbs. These weights were calculated after washing. The total yield of wool in the United Kingdom, taking the average of the years 1905 and 1906, was estimated at 133,088,000 lbs.

The total annual importations of wool in the triennial period 1904-6 averaged 610,741,354 lbs., but this was reduced by re-exportation to 345,001,830 lbs. Roughly speaking, therefore, we may say that about 3 lbs. of imported wool are used to 1 lb. of home grown.

Perhaps the most interesting feature connected with wool statistics is the fluctuation of values, and, as those existing prior to the last twenty years may be considered ancient history, it may be sufficient if we confine our review to the later period. Taking the general average of the produce of long and short woolled sheep, we find that the price in 1886 was 10d. per lb. It then slowly declined to $9\frac{1}{2}$ d. in 1896, and then more rapidly till it reached about $6\frac{1}{4}$ d. in 1902, which was the lowest point in the last twenty years. A sudden recovery then commenced and continued steadily till, in 1906, it reached 1s. 1d. Thus in four years an advance of fully 100% was accomplished. Since then the trade has shown a disposition to fluctuate, but, on the whole, prices are fairly firm with no indications whatever, at present, of a return to a lower level. Importations have not increased appreciably since 1886, and, given a continuance of the present activity in manufactures,

it is reasonable to suppose that the chances are in favour of a further advance. We have now become accustomed to a very moderate level of values for all our produce, and 34s. per tod for wool seems fairly good after seeing it at 16s.; but it must be remembered that for many years, in the middle of last century anything under 42s. was considered low, while the price rose occasionally to 50s., and even higher. Wool stands in a different category to mutton, and the nations of Europe and North America with decreasing flocks, are quite likely to compete with us for the world's surplus of wool.

CONCLUSION.

It now only remains to sum up the whole situation both at home and abroad and to see if we can extract any encouragement for our breeders from the facts which have been collected. The position of the industry in these islands seems extremely satisfactory if we may judge by the superior quality of our sheep to those of any other country, the fair level of values which has been maintained for them when compared with that of other produce, and the evident revival of confidence now being displayed by our farmers in the increase of their flocks. Then there is the great question of health, which, through long continued immunity from any serious epidemics, is in danger of being forgotten. The rising generation of British farmers can scarcely realize the trials and losses often suffered by their fathers from such diseases as "Foot and Mouth," and fluke, or liver rot. The first of these, when it attacked breeding ewes, had a disastrous effect on their condition and the yield of lambs, while the latter was, indeed, a dreadful visitation which has been known to bring ruin to many a farmer. We ought to be grateful for being spared from any general attack since 1879 when flocks were swept away wholesale by this insidious foe, always to be dreaded in a very wet summer.

In our splendid market for mutton we have a priceless possession which foreign competition has so far failed to wrest from us (excepting a large portion of that of London), and which we should strain every nerve to retain by studying the nature of our consumer's demands in varying centres and by supplying them accordingly.

From what has been stated in this article, it will be gathered that, in the writer's opinion, Argentina and Australia are the only sources of supply at all likely to increase their output to any great extent for some years to come. The shippers and London salesmen complain of bad trade and occasional heavy losses, and this must mean lower

prices to the producer, unless some better means of preservation than that of freezing can be discovered. The new process—called sterilization—has been proved efficacious, but successful experiment and practical, general adaptability of any discovery to the whole trade, are quite separate things. So far, it is clear we have nothing to fear from the competition of frozen mutton, seeing that it will only fetch about half the price of our own. Moreover, it is certain that the cheaper it becomes the greater will be the consumption, with but little effect on the value of good home killed.

On the whole then, we may surely regard the future of British sheep farming with the brightest hopes, confidently expecting it to remain, what it has been in the past, the backbone of our farming industry.

III.—PROSPECTS FOR SMALL HOLDERS.

By William E. Bear.

The passing of the Small Holdings and Allotments Act gives prominence to the question as to the chances of success that would accompany any great multiplication in the number of small holdings in this country. I say "multiplication" because the declared object of the measure is the re-population of the rural districts, which obviously cannot result from this legislation through anything short of a very great increase in the number of such holdings. In considering this question, it is not sufficient to pay regard to the circumstances under which small holdings have succeeded or failed in the past; it is also necessary to take into account the changes made by the new Act in the conditions under which they will be attainable in the future.

Before entering in detail into my subject, it seems to me desirable to state, that, while I write as a life-long advocate of an increase in small holdings under circumstances likely to lead to success in their management, I shall not shrink from a frank expression of opinion as to the risk of failure incidental to an imprudent administration of the great powers bestowed upon the Board of Agriculture, the Small Holdings Commissioners, and the County Councils. Perhaps I may also be excused for stating that my qualifications for dealing with the subject are based upon a careful and prolonged study of it, under circumstances conducive in no ordinary degree to a clear understanding of the causes of success or failure among men who have attempted to obtain a livelihood for themselves and their

families upon a few acres of land. At various times during a long course of years it has been my pleasure, in public or private inquiries in many English counties and in the Channel Islands, to visit small holders and to make inquiries among those who are connected with the management of the estates on which they carry on their industry or other persons who are well acquainted with their financial circumstances. In my own district, too, a number of small holders have been under observation for years past.

CHANGED CONDITIONS UNDER THE NEW ACT.

The provisions of the new Act are unquestionably more favourable to small holders than those of the Act of 1892. In the first place the earlier measure, except under certain special circumstances, arranged only for the sale of small holdings, whereas the later one provides for letting them. For one man who is in a position to purchase, under the conditions imposed by the former Act, a hundred men are now able to hire. Under the old Act County Councils were limited in their choice of land to such properties as were voluntarily offered to them; but, under the new measure, they can choose land wherever it seems to them most suitable for small holdings, with regard alike to the character of the soil and the locality. It is true that certain portions of estates, such as home farms and farms not over 50 acres are excepted; but there is no parish in the country in which land cannot be obtained compulsorily. A man who was in a position to purchase land for a small holding—no doubt the best plan under certain circumstances—could usually attain his object much more cheaply by acting for himself, and, if necessary, mortgaging his property, than by purchasing through a County Council.

But, as the Act of 1892 was not put into operation to any considerable extent, the comparison to be made is not one between the provisions of the two Acts, but is one between the hiring of land through a County Council and hiring it by personal agreement from the owner. The question then to be considered by a man who desires to hire land is whether the new Act will place him in a more advantageous position than he would occupy without it. In respect of character of soil and locality, as already indicated, the answer is in the affirmative; for, without the Act the applicant for a small holding can obtain it only where it is voluntarily offered to him, whereas, under the Act, land in any parish can be taken for his accommodation, and there is no doubt that County Councils will be influenced in their choice by the wishes of the applicants for small holdings, to satisfy whose demands they will prepare schemes under the Act.

The answer to the question whether small holdings will be obtainable at lower rents under the Act than by voluntary agreement is not so simple. Probably the rents will be lower in some cases and higher in others. There is no doubt that many existing small holders are handicapped by exorbitant rents; but, on the other hand, probably the majority, particularly on the large estates, pay barely enough in excess of the low rents of large farms adjoining them to cover the extra expense of equipping the small holdings. Indeed, where small holdings are of long standing, and were furnished with houses and other buildings, roads, fences, ponds, and other necessities, many years ago, they are, in many cases, let at rents which pay hardly any interest on the original outlay, above a low rent for the land itself.

Because County Councils will be able to hire land by arbitration as to rents, with due regard for the current rents and to assessments for local and Imperial taxation, it must not be too hastily assumed that they will, therefore, be able to let them at low rents to small holders. They may have to pay considerable sums to landlords and sitting tenants for severance, and to the latter in compensation for improvements under the Agricultural Holdings Acts; while they will certainly incur heavy expenses in making roads and fences, providing for water supply, and equipping small holdings with buildings and other conveniences. Interest on all these expenses, as well as on those of preparing schemes and administration, will have to be covered by the rents which they will charge, and, if we may judge from the usual practice of public authorities, we may regard it as probable that they will spend more than is necessary. Certainly landlords are in a better position for the cheap equipment of small holdings than local authorities. Moreover, where small holders have acquired plots of land devoid of buildings, they have frequently erected very cheap make-shifts, which serve their purposes well enough, but whether they will be allowed to do this, if they hire land under County Councils, is doubtful.

At the present time there is an ample supply of small holdings in many parts of the country, and in some places that there is, or has been, an excess is proved by the relinquishment of some of them and their consequent absorption as additions to larger farms. In other districts, however, the supply is far short of the demand, and in some it hardly exists at all. If the Act should be thoroughly administered there will be no dearth of small holdings in any part of the country; for the powers which it gives are sufficient for parcelling out into small holdings and allotments the whole

of the agricultural land in the country, apart from home farms attached to landowners' mansions, and woodlands not wholly surrounded by, or adjacent to, land acquired under the Act. Whether any near approach to such a consummation will be financially practicable is a question to be considered further on in this article. The injustice to sitting tenants in evicting them wholly or partially from the land which they occupy, and that without a penny of compensation for the consequent loss of the whole or part of their means of livelihood, is another question, and so is the deterioration in the cultivation of the soil and the breeding of live stock which would result from the annihilation of farming on a large scale. Probably, however, the most enthusiastic advocate of small holdings who knows anything about agriculture would not recommend such an extreme realisation of his desire for their multiplication. All that is insisted here is that the Act provides for the establishment of any number of small holders that the agricultural area of the country, apart from the comparatively small portions mentioned above, can furnish with land.

ALLOTMENTS AND SMALL HOLDINGS.

It seems to me a great pity that the distinction between allotments and small holdings has been obliterated by the Act, as the typical purposes for which they are respectively provided differ materially. As a rule, an allotment is a small plot of land held by a man who gets his living apart from it and who is often a migratory workman who hires it temporarily; whereas a small holding is usually occupied as a means of livelihood, or at least a partial means, and is occupied permanently if it is made to pay well enough. Therefore, on a small holding, a house and farm buildings are necessary or at least highly desirable, but not on an allotment. Before the new Act was passed, the only legal definition of an allotment was a plot of land not exceeding one acre, while a small holding was a portion of land over one and not over 50 acres, or, if of greater area, not rented at more than £50. Under the Act, while the definition of a small holding remains unaltered, that of an allotment is extended to five acres. It follows that there is now nothing to distinguish a small holding from an allotment over one acre and up to the limit of five acres. Moreover, the Act removes the injunction against the erection of houses or substantial farm buildings on allotments. In this article, however, any parcel of agricultural or horticultural land over one acre and not over 50 acres or £50 rental will be regarded as a small holding.

SUCCESSFUL SMALL HOLDINGS.

In generalising upon classes of small holdings successfully carried on, or otherwise, it is hardly necessary to guard oneself against being misunderstood by pointing out that some men succeed under the most unfavourable circumstances, while others fail where everything is in their favour. But, in considering the prospects of small holders, it is not desirable to have in view either prodigies of industry, thrift, farming knowledge, and business sagacity on the one hand, or lazy, thriftless, intemperate, and ignorant or stupid men on the other. Fairly average qualifications conducive to success must be assumed. In this connection it may be observed, by the way, that while the "Back to the Land" idea, when strictly interpreted as the restoration to country pursuits of men trained to them in their youth but since engaged in town avocations, is not incompatible with the successful management of small holdings, it cannot be said that a man trained to town pursuits from his boyhood possesses the average qualifications referred to above. The latter may have certain qualifications so finely developed as to overcome the disadvantage of the lack of others; but, so far as my observation enables me to judge, extremely few of such men make small holdings pay.

Small holdings may be divided into six classes, in reference to their principal uses, as follows :—

1. Ordinary corn and live stock farming land, partly under arable cultivation, and partly under permanent grass.
2. Pastoral farming exclusively.
3. Cow-keeping and poultry rearing or fattening.
4. Market gardening.
5. Fruit growing.
6. Production under glass.

Each of these divisions is sometimes combined with one or more of the others. Moreover, each may be sub-divided into holdings the occupiers of which have no other source of livelihood, and those whose holders depend chiefly, or partly, upon extraneous takings.

In the course of my investigations I have found successful small holders under each of these divisions and their respective sub-divisions, though much fewer in some than in others.

With respect to holders of the first class, evidence in all the counties visited was almost uniformly to the effect that a living for a family could not be commonly obtained on less than about

50 acres of land. Many of such occupiers visited appeared to be doing fairly well, and I was informed that they paid their rents quite as regularly and promptly as larger farmers, particularly where they depended for their profits mainly upon the sale of milk. It appeared, however, that not a few of them owed their moderate success in great measure to the help of sons, daughters, or both, who worked for no wages beyond board, lodging, clothing, and a little pocket money, and who might have done better for themselves by working elsewhere. So far as could be judged, the men of this class who had risen to become farmers on an extensive scale in comparatively recent years, were fewer than among small holders in some of the other divisions.

The second sub-division in this class covers holdings of all sizes from 50 acres down to one acre, whose occupiers derive more or less of their means of livelihood from some trade or business, or work done for hire, down to men working regularly for wages and helping their families to cultivate their small parcels of land only in their spare time, with an occasional day extra in a busy season. Now, without seeing exact accounts, which are hardly ever kept by such men, it is impossible to tell to what extent the holdings themselves are profitable, if at all. The outsider has to be contented with ascertaining whether or not a fair living is apparently obtained by the combination of the undertakings in which the occupiers are engaged, and it seemed to me that success was more common under such a combination than where small farmers depended entirely upon the land. Cases of small holders who are also local blacksmiths, wheelwrights, or keepers of inns have never interested me greatly, partly because their holdings may have an aspect of prosperity while not paying expenses. But more numerous are cases of occupiers of 20 to 40 acres, who make their little farms pay mainly by carting on the roads for hire. The two undertakings, farming and carting for hire, go well together, and the latter is highly profitable in districts where there are not too many men engaged in it. A man who farms 20 acres, and keeps a pair of strong horses, can engage in carting during a large portion of the year. Occupiers of 10 acres or less sometimes earn money by carting, but more commonly by working in busy seasons on large farms, or in the woods in winter, and thus they obtain a livelihood.

Occupiers of 10 acres or less, partly arable, seldom grow any considerable quantity of corn. More frequently they grow culinary vegetables and a few flowers, perhaps enough oats for a horse, a few rods of roots and other forage crops for two or three cows, and they rear a calf or two and keep pigs and poultry. Such

men are too fully occupied to work for wages, and they usually make a living by selling their produce retail, either from house to house or by holding a stall in the market of a large town. The most successful of them are higglers as well as producers, buying the products of other small farmers and cottagers and selling it with their own in the nearest town. There are some such small holders in my own district, and they differ in opinion as to whether they obtain most advantage from farming or from higgling. It will be seen that the undertakings of these men combine the avocations of three or four of my divisions, and that for this reason it is difficult to classify them. While with some of them ordinary farming is their main pursuit, this is not the case with others.

It is obvious that very little arable land can be managed by men who work regularly for wages, and, indeed, no more than would come within the category of allotments.

Small holdings all under permanent grass appear to be much more commonly successful than those of ordinary mixed farming, partly because the labour, apart from what is done by the occupiers and their families, is less costly where it is employed. Many prosperous men are to be found in the Stilton cheese districts holding only about 20 acres of pasture, and in other cheese districts 50-acre farmers appear to pay their way as a rule. There are, in all classes of farming, many instances of men rising from quite small holdings to large farms, but the most numerous cases brought to my notice were in the pastoral parts of the country. Similarly on quite small holdings, where wages are necessary to supplement the takings from the land, pasture is obviously most suitable. Nothing, for example, could make a greater show of prosperity on a humble scale than Lord Tollemache's estate in Cheshire when I visited it. The great majority of the labourers hold three acres, and work regularly on large farms, only helping their families to manage their holdings in their spare time. At the worst, their holdings pay house rent and provide a good deal of food for their households; but many of the occupiers have saved money and become large farmers, gradually taking more and more land. On several other estates, mainly of good grass land suitable either for butter or for cheese, numerous instances of such success were reported by agents. Much as the idea of "three acres and a cow" has been ridiculed, it seems to me that there can hardly be too many of such holdings, and that nothing is better calculated to keep up the rural population. On the estate of Mr. W. J. Harris, in North Devon, the labourers have begun with very small holdings, mostly in grass, working nearly all their time for wages, and many of them have steadily increased

their acreage. The population of the parish has increased considerably since the scheme was first put into operation.

In the chief poultry rearing and cramming districts, as in Sussex, cow-keeping is advantageously combined with that industry, the holdings being entirely, or mainly, under grass. The industry, or at least the rearing division of it, has suffered in recent years from the competition of Irish chickens, great numbers of which are imported by the crammers, and it is probable that eggs now pay better than chicken rearing. Still, butter-making and chicken rearing together furnish many occupiers of 30 to 40 acres with a living, while the crammers, as they buy fowls to fatten, can do with smaller holdings. The latter, like the rearers, are not doing as well as they did formerly, when their special industry was confined within narrow limits. Now that it has spread far beyond Sussex and parts of Surrey, the prices of crammed poultry have fallen; but most of the men who manage skilfully, are able to pay their way.

Market gardening on small holdings, defining it as the production of culinary vegetables, has paid well in the past, and still succeeds on rich soil not too remote from a good market, although it has suffered severely from the great multiplication of allotments and from the increased cultivation of culinary vegetables on large farms. The general verdict is that a market gardener requires at least 10 acres to afford a livelihood for a family, if he sells his produce in the wholesale markets. In the Evesham district, however, many occupiers of smaller holdings make a living by market gardening in combination with fruit growing.

Many instances were brought to my notice in Hunts, as well as in the Vale of Evesham, of men who started on a few acres and gradually increased their holdings until they became large occupiers. In most parts of the country visited, however, it appeared that market gardeners on 10 acres or less could pay their way only by selling their produce retail.

The investigation of the conditions of small fruit holdings gave conflicting results. Fruit crops are so uncertain that it is not advisable to depend entirely upon them on a holding of less than 20 acres. It is true that I met with many successful cultivators of small fruit holdings in the Vale of Evesham and Pershore and on the best fruit soils of Cambridge, Norfolk, and Kent; but, as a rule, culinary vegetables, and particularly asparagus in Worcestershire and Cambridge, were also grown. Taking 50 acres as the limit of a small holding, we have ample space for considerable business undertakings, even when fruit alone is grown, as the

expenditure on labour on a fruit farm of 40 acres, if it is properly managed, is more than it is on most mixed farms of 300 acres ; or, at least, it is so if all the labour, including that of the occupier and his family, be charged. On the best fruit soils of the country the industry, where well carried on with plenty of capital, is usually profitable.

The production of fruit, vegetables, and flowers for market under glass was highly profitable for some years following the beginning of its great expansion, nearly 40 years ago. Numbers of men who started with two or three glasshouses gained such great profits that they were able to extend their enterprise rapidly, and some of those who began on such a small scale are now among the most extensive producers under glass. This is the case in Guernsey, as well as around London, in the south of Sussex, in parts of Kent, and in other great glasshouse districts. It is hardly necessary to say that an immense glasshouse business may be conducted on much less than 50 acres, so that it is not really appropriate to describe the occupier of even half that area under glass as a small holder. At the present time marked success in the undertaking is mainly confined to those who do business on a somewhat large scale.

UNSUCCESSFUL SMALL HOLDINGS.

As official statistics show that small holdings in Great Britain have been decreasing in number, though only slightly, up to 1906, they may be taken as fair presumptive evidence of numerous failures among small holders to make their undertakings pay. It is to be observed that the decrease has been concurrent with the establishment of many fresh small holdings, and therefore it is clear that the failures have been sufficient in number to over-balance that of the new undertakings. There is also to the same effect the more specific evidence of landowners who have set on foot schemes of small holdings only to find them failures after a few years. In this connection, it is a significant fact that some organised attempts to establish colonies of small holders have come to grief. This was the case, for example, with the scheme of the Small Farms and Labourers Land Company, who parcelled out considerable tracts of land in small holdings in Berkshire and Cambridgeshire, some years ago, with unfortunate results. It is, perhaps, too soon to decide as to the results of the efforts of the more recent Small Holdings Association at Newdigate, in Surrey ; but I fear the outlook there is not brilliant ; at any rate, the Association has not fulfilled its original intention of ex-

tending the undertaking to other parts of the country. Certainly it is much too soon to judge whether still more recent schemes, including those carried out on Crown lands and Lord Carrington's estates, will prove successful or otherwise.

My own opinion is that what may be described as "bolstered-up" undertakings for settling men on small holdings are not likely to prove generally successful, mainly because they invariably place upon the land a considerable proportion of unsuitable men. Great capabilities in industry, thrift and business ability are necessary to make farming on a small scale pay in this country, when it is relied upon exclusively for a livelihood. As a rule, the men who, by their independent resources, have established themselves as small holders are examples of what may be termed natural selection. At least, that is the case where the occupiers have risen from the ranks of the farm labourers or other wage-earners. The mere fact of their having saved enough money to start as small holders is a proof of industry, steadiness, and thrift. It does not prove business ability, and therefore it does not afford complete security for success even apart from special bad luck, which may overwhelm the best qualified of men. But the enterprise of men acting on their own initiative and resources is much more likely to give good results than undertakings in which the public are invited to take part, and for which the selection of candidates is exercised by managers who seldom know them at all intimately.

Ordinary corn and live-stock farming yields so meagre a profit at its best that small holders who pursue it cannot have at all a brilliant prospect, for they labour under several disadvantages as compared with large farmers. In the first place, the rent of a small farm must necessarily be higher than that of a large one, to pay interest on the extra outlay on house and farm buildings in proportion to acreage, while rates follow rents pretty closely, and ordinary farming can ill bear high rents and rates. In the second place, the small holder is usually a man of very little capital, and in the great majority of instances he cannot find the money for the most profitable live stock or the best labour-saving implements and machines, or if he can obtain the latter, he has to sink an inordinate sum per acre in them. Even where there is ample capital, small farming is not well adapted to sheep-breeding, or the breeding of choice live stock of any kind, now the most profitable pursuits in the class of farming under consideration.

It has already been pointed out that most of the occupiers who get a living on 50 acres or less by ordinary farming do so at the cost of some sacrifice on the parts of sons or daughters, or both.

and this can hardly be regarded as desirable. So far as there is an opening for holders of this class, it seems to be for those who will devote themselves to the production of milk for sale in towns, for which the demand is constantly increasing.

In some districts there may be openings for small holders who will supplement their earnings as ordinary farmers by carting on the roads for hire; but it is obvious that a limit to the increased number of such men would be soon reached. As to those who work for wages on large farms or elsewhere, grass holdings, as already observed, are much better suited to them than farms mainly or partly arable.

Probably the majority of failures on small holdings indicated by the reduced number, and by the evidence of landowners who have started schemes for providing them only to find them unsuccessful, have been in connection with ordinary farming. I have met with many individuals, men who have been farm bailiffs or gardeners who have told me that they earn less by farming on their own account than they obtained in wages when working for others.

Fewer cases of failure on small grass holdings have come under my notice than in connection with other classes of farming. This is not surprising, because a man and his family can manage a good many acres of grass land without hired labour. It seems to me that there can hardly be too many grass holdings of about three acres for men who work regularly for wages, while somewhat larger holdings of the same class might well be provided in some parts of the country for men who work for large farmers in busy seasons. Still, I have been told by men of this class, who had held little grass farms for many years, while earning money apart from them, that they got nothing out of them. On this point a significant statement is made by a Lincolnshire correspondent of the *Agricultural Gazette*. He writes:—"In this village there are 42 cow cottages, $3\frac{3}{4}$ acres grass and $\frac{1}{2}$ acre garden. About 20 of these are held by farmers, &c., as labourers will not have them."

Even cow-keeping and poultry-rearing combined are not by any means always successful. I know one man, who was a working farm bailiff, getting, I think, 16s. a week and a cottage, who took 10 acres of grass land, kept cows, and reared a great number of poultry. His first season was unfavourable for young chickens, and it was enough for him. He declared that he preferred working for wages, as he is now doing. This is not by any means an isolated case, as I hear of other failures in a district near my own. Poultry rearing, as stated above, has become much less profitable, since the crammers took to importing great numbers of cheap Irish fowls, than it was.

Many complaints of the hardness of the struggle to make market gardening pay, except under specially favourable conditions in reference to soil and marketing facilities, have been made to me, and I have come across several failures among small fruit-growers. It has already been intimated that production under glass, on a small scale, now yields very poor returns. Grape production especially is very much overdone.

OWNERSHIP *versus* TENANCY.

My investigations have led me to conclude that, except for fruit-growing and cultivation under glass, tenancy is preferable to ownership for small holders, partly because it locks up less capital, and partly because it does not lead to the encumbrances which small owners, like great ones, are in the habit of putting upon their property. When I visited the Isle of Axholme, the industry of small owners in that splendidly fertile part of the country was just recovering from a crisis of misfortune, under which many of the former owners of small plots had sunk, and had been obliged to sell their holdings. In a previous period of prosperity the owners had burdened their properties with mortgages and annuities, and a fall in prices ruined them. New owners, who had bought land at reduced prices, and old ones who had weathered the storm, appeared to be generally doing well; but then the land is excellent for potatoes and celery, and the isle is not far from good markets.

In the case of fruit-growing, however, I have seen many illustrations of the need of ownership. In the first place, except under the Evesham Custom, the arrangements as to compensation for the costly improvement of planting and establishing fruit orchards are almost universally unsatisfactory, and not a few industrious and enterprising men have been cruelly wronged by having their rent advanced greatly on their own planting. Hardly any landowners will let land under the Market Gardeners' Compensation Act, and without the security which that Act affords when adopted, or the still better security of the Evesham Custom, small fruit holdings should be owned by those who plant them. The same arguments hold good even more forcibly in relation to small glasshouse holdings.

COMPETITION AMONG SMALL HOLDERS.

Advocates of the multiplication of small holdings, whose zeal is in excess of their knowledge of the conditions essential to success, do not appear to have any idea of the extent to which competition

affects the chances of those who engage in the cultivation of small plots of land. As a matter of fact, nearly all the small holders who do well, apart from the smallest who work regularly for wages, are dependent for their success upon markets that could easily be glutted. In considering this point, we may leave out of account those who have enough land under ordinary corn and stock farming for a livelihood, because the mere division of large farms into small ones of the same character does not affect the output as a rule, unless to reduce it, while home competition in corn and meat does not count for much in the face of the enormous imports. But then small holdings of this character are not at all strikingly successful as a rule. As soon as we come down to ordinary farming holdings not large enough, however, to maintain a family, competition for the supplementary earnings comes into play. The men who cart for hire in any given district could not be increased greatly in number without reducing the average earnings from such work to a mere pittance. Similarly, those who make their small farms pay only by selling milk, butter, eggs, poultry, and pork retail would "eat each other up," as one of them recently put it, if they were too numerous in any given district. Even those who work for wages on large farms in busy seasons could not be indefinitely multiplied without throwing some of them out of work. As for very small holders who work regularly for wages, it is, of course, conceivable that such numbers of them from the towns could be settled on small plots of land as to glut the farm labour market; but it seems extremely improbable that the cry of "Back to the Land" will have any such result.

Among the most successful occupiers of small grass holdings are those who make Stilton or some other first-class cheese. If they were doubled in number in the course of a few years, it may be assumed that the prices of their products would fall to an unremunerative level; and the same may be said in reference to those who combine cow-keeping and poultry rearing, or engage in market gardening, fruit growing, or production under glass.

There is a large class of small holders occupying from five to 15 acres of land who get a living by selling their various products, and some bought of their neighbours, in the nearest town, to which they resort twice a week to serve householders. In most districts the competition among them is quite keen enough already, and yet too much zeal in administering the Small Holdings Act might easily double their number in two or three years. To take an actual case, there are many such small holders in my own district, and in other parishes from 10 to 12 miles from Eastbourne, who visit

that watering place twice a week in summer and once or twice in winter. It is estimated that about 100 of these small holders and higglers, besides a great number of barrowmen who buy produce in the wholesale market to sell from house to house, compete regularly for the custom of Eastbourne householders. If they were increased suddenly, even by 30 per cent. in number, new and old traders alike would find it extremely difficult, if not impossible, to pay their way, and in all probability many of them would be ruined. The case is similar in connection with Brighton, Hastings, Bexhill, and other watering places.

ADMINISTRATION OF THE ACT.

The Act gives enormous powers to County Councils and the Board of Agriculture—powers not only over the ratepayer's money, but also over the property of landowners and sitting tenants, and over the means of living acquired by existing small holders. The imprudent or inconsiderate administration of those powers would be fraught with serious injustice and injury to these classes, and it is earnestly to be hoped that counsels of moderation and consideration will prevail.

The lack of vigorous and organised opposition to some of the provisions of the Act is remarkable. It may safely be declared that if similar proposals had been made in Parliament in relation to the property or business of any other classes than those of landowners and farmers, there would have been an uproar in the country. To empower a public body to seize compulsorily any farm or, if over 50 acres, part of it, to take the land on lease at a valued rent, to evict the sitting tenant partly or wholly, to spend unlimited amounts on the land acquired, and to throw the land back into the owner's hands at the end of a lease, requiring him to pay compensation for the possibly extremely costly improvements, is an enormous power to wield. The sitting tenant is not to receive a penny of compensation for being deprived of the whole or a part of his means of living. If he has made improvements, he will be able to claim for them under the Agricultural Holdings Acts, and he may get some allowance for disadvantages when part only of his farm is taken. But for the loss of land as a means of livelihood, he will not be entitled to anything. It is true that the Act does not specifically state that the whole of a farm over 50 acres may be taken compulsorily for small holdings; but sub-Section 2 of Section 30 appears to assume this when it refers to a case in which "part only of a holding is taken," and again in the next sub-Section, which provides that "no holding of 50 acres or less in extent,

nor any part of such holding" shall be acquired compulsorily, as if it were assumed that the whole or a part of any larger farm may be so acquired. It is true also that authorities are directed "so far as practicable" to "avoid taking an undue or inconvenient quantity of land from any one owner or tenant." This, however, implies that, if not regarded as "practicable" to avoid taking such undue or inconvenient quantities of land, they may be taken. Leaving out of the question the apparent power to take the whole of a farm compulsorily, there is nothing in the Act to prevent the taking of 50 acres from an occupier of 100 acres, in order to establish a single small holder. This is an illustration of the oppressive power given to public authorities by the Act, and an exemplification of the need of moderation and consideration in its administration. A yearly tenant, who, on a large estate, is usually a tenant for life, will be liable to be reduced to the position of a small holder by having all but 50 acres of his farm, even if not the whole farm, taken from him, at one year's notice to quit, and that without a penny of compensation for loss of means of living.

Moderation and consideration are no less necessary to avoid injustice in the increase of small holdings in any district, in order to guard against subjecting existing small holders to ruinous competition. It will be extremely hard upon men who have established themselves by their own energy, thrift, and resources to have their undertakings swamped by the great multiplication of their class arising from the establishment of new small holdings equipped by public funds. Moreover, the new men will suffer as well as the old ones, or probably more, by any excess in the competition for customers.

Again, great care will need to be exercised in the selection of men to be established as small holders. If townsmen who know nothing of farming are placed upon the land, the result in most cases will be disastrous. There are, no doubt, many men now working in towns, who were trained as farm labourers in their young days, and who wish to return to rural pursuits. They, if industrious, steady, and thrifty, will be satisfactory candidates for small holdings; but there are many other townsmen who have a fancy for farming without possessing the qualifications essential to success in that business.

There is comfort in the thought that the administration of the Act is mainly in the hands of the County Councils, who understand the conditions of their respective districts well. If their hands are not forced, there is reason to hope that they will, as far as possible, show prudence in avoiding the dangers indicated above. Where

they can obtain suitable land for small holdings without dispossessing sitting tenants, it may be assumed that they will select it, and thus avoid the cruel injustice which has been described as "robbing Peter to pay Paul."

CONCLUSION.

No special reference has been made to allotments because, as has been stated, so far as the limit of area in relation to them is concerned, those over one acre may be regarded as small holdings; while otherwise the only material alteration in the law concerning them, apart from their administration, consists in the right to erect houses and other substantial buildings upon them. There cannot well be too many allotments up to the limit of the demand for them, provided that they are not too large to prevent their holders from working regularly for wages or in a trade or business. There are as many as are needed in most parts of the country, and too many in certain districts; but in some cases they consist of the worst land in the neighbourhood, or are too far from their holders' dwellings, or are too highly rented. If the new Act remedies these evils, it will do good.

An allotment is often a stepping-stone to a small holding, and the latter, in its turn, to a farm of considerable size; and, although I have written plainly about the dangers of the new Act, no one will rejoice more than I shall if it increases the opportunities which will enable industrious and capable farm labourers to secure for themselves an insurance against pauperism in their old age. There is land enough to be had in the country, though not, perhaps, in every parish, without the compulsory eviction of sitting tenants. Thousands of farms are vacated every year, while many are in their owners' hands already, and it is such farms that should be taken for small holdings and allotments. No one can wish to see bad feeling stirred up in the rural districts by unjust and oppressive action in taking from sitting tenants a part, or the whole, of their present means of livelihood. Such action would infallibly excite a strong prejudice against the men for whose supposed benefit it was taken, as a single case in a parish would enlist the sympathy of all the farmers with the victim of it. Small holders are often dependent upon large farmers for help in the loan of implements, or for employment when wages have to be earned occasionally as additions to the returns of their undertakings, and for this reason, if for no higher one, the considerate administration of the Act is of great importance.

Finally, I submit that it would be easy to do a great deal more harm than good by the multiplication of small holdings, and that the administering authorities, when they are urged to establish such holdings in districts unsuitable to them, or where the competition among existing small holders is already too keen, should be resolute against the clamour of enthusiasts ignorant of the conditions conducive to success or failure. Steady and tentative action in this direction will be far more likely to give successful results, and, by throwing credit upon the movement, to establish it upon a permanent basis, than hasty and wholesale operations.

IV.—LARGE AND SMALL HOLDINGS IN DENMARK.

By Granville E. Lloyd Baker.

Much has been written lately on the Agriculture of Denmark, especially with reference to the Small Holdings, to which some writers attribute the present prosperity of the country. It may interest your readers to learn the impressions received during a series of visits recently paid to some large landowners in Denmark, where I had an opportunity of going over several farms, with landlords, and talking to the tenants. Being the possessor of several small holdings in England, I was able to compare the circumstances of the two countries.

Some persons speak of the Small Holdings of Denmark as if they were a new institution started by the Legislature; and, as if the chief feature of Danish Agriculture was the division of land into Small Holdings. As a fact, in early days, most Danish landlords let off a great deal of land in very small quantities, to ensure a supply of labourers. The rent for these was paid in labour; naturally, this was gradually turned into the more convenient form of a money rent. Some of the holdings were made larger, so as to suit men of more capital, and, in fact, farms of all sizes, up to some thousands of acres, have for some time existed, and do exist, in Denmark. The Government, to avoid the agglomeration of farms, long ago made it impossible to absorb a small farm in a large one, except under special conditions.

As there are few industries of importance in Denmark, except butter and bacon (and more recently eggs), the desire to invest money in land has been strong, and, with the increase of wealth, has become stronger. The large landowners have for some years sold numbers of farms, especially small ones, to the tenants, usually

leaving a great part of the purchase money on mortgage. The Government have favoured this by allowing owners of entailed estates to sell peasant farms, placing most of the purchase money in the entail, and have also allowed them for each farm that they sold to add more to their private demesne. This was done for many years by arrangement between landlord and tenant, without Government assistance, but of late years the Government have advanced money at 3 per cent. (a lower rate than is usual in Denmark), and have allowed repayment to begin after five years in very small instalments, sometimes $\frac{1}{2}$ per cent.

Since then a great increase in the purchase of small farms has taken place; many men, who had saved a little money, have bought patches of land, and have put up houses and buildings. To show the sort of thing that is done, I give the particulars of a small holding started with Government money (*Staats hilfe*). It is situated near Giesegaard, the beautiful residence of Count Brockenhuus Schack, in Zealand; as it was bought a short time ago, the owner was able to give the following figures:—

	Kr.	£
Four Tönderland, i.e., $5\frac{1}{2}$ Acres	2,400	133
Dwelling-house, including stable for 2 Cows and a Pony—the whole roof space being used for a loft	1,800	100
Live Stock (2 Cows and a Pony) utensils	1,600	100
Well	200	
	6,000	333

Of this the Government lent 3,600 kr = £200, at 3 per cent. After the first five years the tenant pays, besides interest, $\frac{1}{2}$ per cent. on 3,600 kr. until the debt is reduced to 1,800 kr.

After that he pays $\frac{1}{2}$ per cent. on the remainder until the debt is extinguished.

A YEAR'S ACCOUNT.

INCOME.		Kr.	£	s.	d.
Two Cows for Milk and Calves	600	33	0	0	
Four Pigs	320	17	15	0	
Poultry about	100	5	11	0	
	1,020	56	6	0	
EXPENDITURE.		Kr.	£	s.	d.
Repairs, Taxes and Interest	200	11	0	0	
Seed and Feeding Stuff, 4,400 lbs. at 6 ore ..	264	14	9	0	
Interest on 2,400 kr. of his own	96	5	7	0	
	560 or 460	30	16	0	
Balance profit	460 or	25	10	0	
	1,020	56	6	0	

His profit is, therefore, £25 10s. 0d., plus some milk for the house (as the separated milk is returned from the factory), and the produce of the garden. He would not get on unless he had some extra work. On spare days he is given work at Giesegaard, at 1.80 kr., or 2s. per day. If he worked there regularly his wages would be higher. He works one hundred and eighty days, which brings in £18 more, making up £43 10s. 0d., besides house and garden.

The house consists of three or four rooms on the ground floor. The whole of the upper part is used for storing potatoes and forage. The stable for the cows and the one Iceland pony being under the same roof as the dwelling no doubt contributes to the warmth of man and beast during the long hard winters.

The cattle are always housed for six months, or more. The warmth of the house conduces to the yield of milk, and there is some economy of food and manure, but in England we should not consider it healthy; especially as on the small farms the cows cannot be kept with the same scrupulous cleanliness as is the case on the large holdings.

The work is done by the man and his wife, with some help from a boy of eleven. On some farms, horses are hired for ploughing. Here the Iceland pony was supposed to do this as well as the hauling (in a primitive, home-made, little cart). The man dug and forked part of the ground, probably the best part.

There is no pasture in Denmark worth mentioning, but a good proportion is in clover. As all animals, cows, horses, sheep and lambs, are tethered, no fences are required, and a great expense is thus saved. Where possible the cows are milked three times a day, which gives a far better result than the ordinary plan, but is abandoned on most large farms from the difficulty of getting milkers. The peasants on these small holdings do it; hence the large yield of milk. The tethered cows must be moved five or six times, and watered. This does not take long, but requires regular attention. When the man works out, his wife must do this, as well as the milking and attending to the fowls. If there is more keep than is required for the cows, a lamb is bought, and tethered till it grows big enough to sell as mutton. Sometimes you may see two, but not often. It is generally calculated that each hen brings a nett profit of 2 kr. = 2s. 3d., per annum for eggs.

Living is generally simpler and rather cheaper than in England. Of late years wages have risen considerably, and the peasants are said to eat other meat, instead of pork only, as formerly. They cannot eat much, for you see no fat stock, as we understand it. The old

cows are slightly fattened and killed. Most of the bull calves are killed as veal. There are very few sheep. Butter is generally exported, and the peasants use margarine. Still the profit would not be sufficient without the wages earned by working out. A thoughtful writer pointed out lately in the papers, that if the peasants' holdings were very much increased, the balance would be destroyed, and there would not be enough large farms to give work to the small farmers, and great distress would ensue.

Another holding, which I saw, had been sold by my host twenty-two years ago, to a man whom he knew well; it was specially interesting as the man had now doubled the size of his farm. He at first bought a house and three Tönder land (four acres) for 2,450 kr. = £135. This was a very easy price, perhaps, less than it would have brought in the open market; but the house was old, and the land had been run down. The peasant paid a part down, and pays 3 per cent. for the rest, besides 2 per cent. to pay off the capital. Lately, he has bought three Tönder (four acres) more, for 1,500 kr. (£84) from another owner. He has put up some rough buildings. He keeps four cows, a heifer, two calves, a horse, a few pigs, and some poultry. He and his wife do all the work; they buy a great deal of corn and cake. The man has forked, or dug, four acres twelve inches deep this year, three times over. This couple have, naturally, no time to work out. They are apparently progressing slowly, but steadily. They said that they had had a considerable advantage in their land being selected by Government for experiments and dressed with chemical manure. I think everything pointed to their being a favourable example of peasant proprietors.

On the beautiful island of Möen I saw no peasant proprietors, but there were numerous small holdings. My host considered them a necessity, not only in order to keep people on the land but to bring up young lads to country life.

One very small holding that I saw was two acres, including the ground covered by house and buildings. £4 was the rent, and the tenant did repairs and had put up most of the buildings; a cow and calf were kept, or sometimes two cows, but a great deal of food had to be bought. No poultry could be kept, as the fowls trespassed on the neighbouring holdings, all small, which caused friction.

A good specimen of a rather larger holding in this neighbourhood was one of twelve Tönder (sixteen acres), or a little more. The man keeps four cows, four pigs, twenty hens, and a few ducks, together with a pair of iron grey horses, very keen, and in good

condition, with which he ploughs and hauls for other people. I could not get details as to his profits, but he was evidently a thriving and prosperous man.

In this neighbourhood there is a very large factory of beet sugar. Very small, slight tramways have been laid down for a considerable distance, to bring beetroot to the factory, and take away refuse pulp. This factory tells in two ways on the neighbourhood. Firstly, It has raised the rate of wages from 2 kr. to 2½ kr. per day; secondly, the farmers make a good profit by growing beet, which they sell to the factory, and get back the pulp, which is excellent food for their cattle, at a very small cost.

There are, in Denmark, several large rented farms, with one hundred and fifty to two hundred cows, besides the large home farms of the wealthy estates. On one of the largest, Count Ahlefeldt Laurvig's, at Tranekjaer, in Langeland, I saw over six hundred cows on one part of the farm, where cheese was being made. Very excellent Dutch cheese is produced here, and sold in Copenhagen. There was also a herd of eighty Jerseys on the part where butter was made. On such farms as these the finest cattle are to be found, and all improvements in stock, machinery, and cultivation are first introduced. I saw here a huge wind engine, fifteen horse power, which generates electricity. This is used for lighting the castle, pumping water for all the buildings on the demesne, chaffing hay, and pulping roots. There is a great deal of wind in Denmark, especially in this island, but yet it was found necessary to have an oil engine to fall back upon when the wind power was insufficient. As coal has to be imported, and is, therefore, dear, this windmill ought to be a great economy, but the initial expense and the cost of accumulators prevent it from being a financial success.

Some most valuable experiments are being carried on by Count Ahlefeldt at his poultry farm at Tranekjaer. Several varieties are kept, and they are crossed in various ways, and subjected to experiments with respect to feeding, in order to arrive at the profit of various crosses and treatment and the result in weight and eggs. When this has been carried on a few years, it ought to afford most valuable information.

I now come to the question of what sized holdings appear to give the best result. My own belief is that in Denmark, at any rate, it is necessary to have holdings of all sizes, in order to carry out a complete system of agriculture.

I sometimes heard that the back-bone of Denmark was to be found in the moderate holdings of twenty to thirty acres, which are

often freeholds, as on these there is sufficient space for the economical use of machinery, and, generally, sufficient capital to afford purchase of the latter. At the same time the individual attention and hard work of the farmer and his family are applied to every part of the farm. The very large farms, however, are the places where all improvements in cattle and machinery are introduced, and through which the most important co-operative societies have been started. They are also necessary to the existence of the small farms, as they employ extra labour, without which the small owners would fare badly. These improvements roused the competitive spirit of the ordinary farmers, who formed for themselves co-operative societies, for the purchase of machinery and for establishing creameries.

The very small farms are the most interesting at the present time, as they are the only ones that it is proposed to start here by aid of public money.

In Denmark they are a success; they keep a certain number of people in the country, and these bring up their children to a hardy, healthy, country life, with some knowledge of farm work. It is true that the children generally leave their homes at fourteen, and seek work in the towns or emigrate, and that very few young labourers are to be seen in the country, so that it has been found necessary to import Polish labourers in large numbers; but as the small farms are always occupied, a certain number must stay on the land or return from the town. The part of the system that is new is the advance of the purchase money by the State, which may, in some cases, extend to 90 per cent. of the value of the house and land, so that the owner has to pay down only 10 per cent. and enough to buy the stock. This latter expenditure is sufficient to warrant his being a thrifty man. The fact of the land being his own doubtless contributes to the happiness of his life and induces him to spend more labour and capital upon it; and although the debt to the State will not be paid for three generations, he feels that the residue of the land and all his improvements will be left to his children.

If there is a large family, this possession is, of necessity, divided equally between them, and then it must either be sold or one son may take the property, paying interest to his brothers and sisters. This brings us back to the old evil of small encumbered estates; and some people think that the moderate sized farms fared better under the old system, as when the tenant died, the landlord gave a lease to whichever son was best fitted to manage it. But in the case of very small holdings this difficulty cannot be so great, the total value being so small that one thrifty son would, probably, be able to pay off all the others.

As I showed in the account of the small holding at Giesegaard, the man and his wife can hardly make £45 clear profit. If they worked regularly for a large farmer, and undertook the milking and tending of thirty-five cows (which is considered possible), they would earn £60; but by working at home the woman can attend to domestic duties and look after her children, whilst the man feels that, though he gains less money, he is improving his land.

As far as the wealth of the nation is concerned, the land, no doubt, produces more, and the labour less. More of home produce is exported or consumed; less money is spent among the neighbouring tradesmen.

As an inducement to thrift, and as a means of rendering many happy and contented with a simple life, the small farms fill a most important part in the well-being of the country and make one wish to increase the number that now exist in England. This, however, cannot be done on exactly the same lines for many reasons, among which I may enumerate the following:— There is not so much counter-attraction in Denmark, the only large and increasing town being Copenhagen; the wages are not so high as in London, and the work is not more regular. Many of the townsmen have been brought up in the country, and their disposition is more suited to agricultural work than that of our town people. They may not work so quickly, but they do not mind the long, uncertain hours, which are necessary for tending cattle. As there is little visible wealth, except land, its possession is more coveted and gives more pleasure than it does to our people. A Dane who owned a farm with no mortgage would live on it, and probably add to it. An Englishman who owns a nice small farm unmortgaged, usually lets it and raises money to take a larger farm. We sometimes see, even now, a family living on a nice small farm that they have inherited. They seldom seem to be rich, and it generally turns out that family charges prevent their raising any more money on it; so that, though they have the pleasure (a great one) of possession, they by no means live rent free.

Then there is the question of cost of establishment. In many parts of England, building laws require considerable expenditure on houses. Building is dear; and our people will not put up with such simple dwellings as satisfy our neighbours. A very simple house, with stables for two cows and a pony, could not be built for £100, or, perhaps, for double that sum. In England fences are required; on such small enclosures these will double the cost of the land. Of course, where small fields already exist, formed in days of cheap

labour, this difficulty disappears ; but such fields are already used for small holdings. The Danes get over this by tethering all cattle, horses and sheep. Our labourers have an almost invincible repugnance to this ; and yet it is necessary that the small farmer, and all his neighbours, should combine to practise it. The only plan that seems possible is for several to join, so as to occupy one large field among them, and all to tether the cattle. If a number could be found to do this it would assist the scheme materially. They might then take some large arable field, which can now be got much cheaper than pasture, and, as their system requires the close cultivation of all the land, arable land is what they want.

It has been said, and truly, that co-operation is necessary for the successful working of small farms. In Denmark most of the co-operative societies were started by larger farmers. These, however, in England, can now get a higher price by sending their milk into towns and making cheese in summer than by sending to a factory. The factory price in Denmark is 4½d. per gallon all the year round—separated milk is returned, which adds about 1d. Cheese factories have not been a success in England, and butter factories could rarely give more than 4½d. per gallon for milk all the year round as in Denmark.

One or two small holders can do a good deal in a village by retailing milk, but the custom of a village will hardly support more. If they would take the trouble to tether their cattle, to milk three times a day, and to rear calves with the separated milk, which they might get back (if there was a factory), they would probably do as well as the Danes. Whether such a moderate profit under such conditions would satisfy them is another question.

I have not touched on small holdings near large centres. These are often profitable as market-gardens, under which head they should be described. I would suggest that some of the large arable farms in the East of England, where the country resembles Denmark, and where the land is cheaper, would be suitable places to try the experiment.

In the foregoing sketch I have endeavoured to state fairly, from what I saw in Denmark, my impressions as to the utility of small holdings started by Government aid ; I have tried to point out the advantages and disadvantages, and show how these would affect the same class of holders in England. I have seen, on small holdings in a retired spot in Shropshire, the good effect of a simple, homely life ; and I wish that more of such homes and such people could be found in England. I believe that where you could get the right soil and position, and especially the right men, a great deal might

be done; but the men chosen must be those (as in Denmark) who have already laid by a considerable sum (this is the only sure test of thrift), and they must understand what sort of life they are about to undertake. I know by experience that the mere obtaining a long list of signatures is of no value. When a new scheme is in fashion, numbers will sign anything on the subject; it may oblige a neighbour, and it costs nothing. The signatures must be those of known capable men, who can show a substantial balance in the Savings Bank. With such precautions, any efforts in this direction can only lead to good; but without these, disappointment and failure will be the result.

V.—SOME FAULTS AND FALLACIES IN DAIRYING.

By F. J. Lloyd, F.I.C., F.C.S.

Of late years, when acting as judge in dairy competitions, or as examiner in dairy principles, I have been struck by the persistence of certain faults in manipulation, and of some erroneous ideas in theory, among the younger generation of dairy workers. How these views have come to be held, and why the teachers of the present day do not correct them, it is difficult to understand. At first one was inclined to think that such views were exceptional. But this is not the case, for too many of them appear to be commonly accepted. I have, therefore, thought it desirable to draw attention to them. Those who hold different views may subsequently show cause for their faith; certainly the discussion of these matters cannot but be helpful to a clear understanding of some moot points.

THE MORNING'S MILK.

To the question:—Why is the morning's milk generally poorer in fat than the evening's? I frequently obtain the answer—because the fat has been re-absorbed into the animal's body. How this remarkable supposition arose I have failed to discover, nor can I find a single fact in support thereof. On the other hand, there are many reasons—in my opinion insuperable reasons—for believing that it is based on an entire misconception, for the body does not in health ever absorb any of its secretions.

Take a simple illustration. It is well-known that if a cow is not milked for a long period a time comes when she can no longer retain her milk, and this probably holds good for all cows though the

time may differ for each. Now is it likely that if a cow cannot re-absorb her milk, she could re-absorb the fat out of that milk. The true explanation of the fat being less in proportion to the volume of milk yielded in the morning than it is to the volume of milk yielded in the afternoon, is due to the fact that milk is a compound of a liquid serum and of cellular tissue. The secretion of the serum appears to be continuous, while the amount of fat formed in the cells appears to vary but slightly or be constant. Hence the longer the time between the two milkings the larger the amount of serum secreted and the greater the dilution of the cellular tissue and fat. Let us put it in another way. Suppose a cow can make ten ounces of fat in her udder, and that in the morning this is diluted with two gallons of serum, then the percentage of fat in the morning's milk would be 3.12. But in the evening it is diluted with only $1\frac{3}{4}$ gallons of serum, so that in the evening's milk the percentage of fat is 3.57. This is exactly what we find in practice, and while the theory explains the difference between the composition of the morning's and evening's milk it is supported by facts well-known to physiologists regarding the nature and structure of the milk gland and its secretion. These facts have been fully stated and explained in a former volume of this Journal.

BACTERIA.

While the general knowledge regarding these infinitely minute but all-powerful workers has greatly improved of late years, there still remain some points concerning them and their relation to the dairy industry on which erroneous ideas are held. Foremost among these are views concerning the way in which bacteria feed. Thus it is sometimes asserted that they feed on the fat and so cause butter to go rancid.

But the erroneous statement that the bacteria in milk feed upon the casein is more frequently met with than any other. There is no evidence in support of this theory, in fact a little consideration will at once show how false it is. The casein of milk is completely removed by rennet, and whey contains no casein whatever, yet we know that the bacteria present in milk will grow quite easily in whey. We may even go further; if the whey be heated and the soluble albumin which it contains is thereby precipitated and filtered off, we shall still find that bacteria will grow easily in the remaining solution. Evidently then neither casein nor liquid albumin is necessary for the growth of bacteria in milk.

Even in cheese the bacteria do not feed on the casein. Undoubtedly they cause the casein to undergo certain chemical changes, but I doubt if that is due to their direct action upon it. And one reason for this conclusion is that the bacteria found in cheese can be made to grow, and grow easily, upon nutriment which contains no casein. Organisms which liquify gelatine when grown upon that medium generally soften the casein of cheese and will cause the cheese to "cut fat." But, as I have shown in my "Report on Flavour in Dairy Produce," published in this Journal, Vol. XVI., page 63, these liquifying organisms, when placed in an atmosphere of carbonic acid although they grow, do not liquify the gelatine. This probably is why when they grow in the interior of a cheese, where there is but little, if any, oxygen, they exercise comparatively little action upon the casein. Such action as they have is most likely due to an enzyme they secrete and not to their feeding upon the casein.

HOW THEN DO BACTERIA FEED ?

Bacteria, like all vegetables, are composed of cells, having a distinct cell wall composed of cellulose, which surrounds a jelly-like mass to which the general term of protoplasm has been given because, as yet, we know little about its nature. But the protoplasm in one cell or bacterium is probably as distinct from the protoplasm in another cell or bacterium as the rose is from the sweet-pea, or the potatoe from the onion. However, the cellulose surrounding this protoplasm does not prevent it obtaining the food which it requires. But it is evident this food must be in solution. It is then obtained by a process known as osmosis. Let me explain this term for those who may not know what it means. Parchment is the nearest approach to cellulose that we can use to illustrate its action. If some parchment were tightly tied over one end of a tube and water poured into the tube we know that the water would not pass through although the parchment would gradually become wet. If, however, the covered end of the tube were placed in a tumbler of water, the water in the tube would slowly pass into the tumbler or from the tumbler into the tube until the level of each was the same. Now if we were to put some sugar into the tube and some gelatine or the white of an egg (albumin) into the water in the tumbler and leave them some time, we should find that some of the sugar had passed through the parchment into the water in the tumbler but none of the gelatine or albumin in the

tumbler had passed through into the tube. The power of parchment to allow a solid substance such as sugar in solution to pass through it in this manner is called "osmosis," and is possessed by the cellulose of plants and bacteria, and this is the way the bacteria feed. All soluble crystalline substances can pass through such a membrane, and those substances which cannot pass through it are called colloids. Now both casein and albumin are colloids, and so it is evident that bacteria do not feed upon them. Bacteria then feed upon the crystallisable and soluble constituents present in the materials in which they grow. Undoubtedly the soluble constituent most important in milk is the milk-sugar. The secretion of an enzyme by a microbe is probably nature's way of ensuring for this microbe soluble food. Without this enzyme secretion and the production of soluble food in close proximity to the microbe, we may well believe that many would fail to grow. The moulds, like bacteria, also produce these enzymes, and probably for the same reason.

Cheeses, the ripening of which depends upon moulds, must contain a large quantity of soluble food for the mould to grow upon until this is able to form its enzyme, and so make food for itself. This is why all the cheeses whose ripening depends upon the growth of a mould are soft cheeses, from which the whey has not been expressed, and it is the lactic acid developed in this whey which supplies the first food for the growth of the mould. The mould partly consumes the lactic acid, then its enzyme decomposes the nitrogenous matter producing ammonia, which neutralises the remainder of the acid. Thus an unripe soft cheese in its early stages of ripeness is far too acid for consumption, but subsequently loses this acidity when it is ripe and fit for the table.

In cheeses of the type of Cheshire the lactic acid supplies the food for the butyric acid bacilli which follow the lactic acid bacilli in the process of ripening. This also happens in Lancashire cheese. But it is probable that other bacteria also utilise this lactic acid as food. In the hard cheeses, like Cheddar, the lactic acid probably plays in the first place an important chemical part in the ripening by withdrawing the remaining lime away from the casein and so produces calcium lactate, which is well-known to be an excellent food for bacteria. This same change will, of course, take place in all ripening curd, but probably is more important in the hard cheeses than in any others. The lactic acid bacillus, as it becomes deprived of its soluble food, will also secrete an enzyme to obtain more food, and thus indirectly act upon the casein. But although the lactic acid bacillus is undoubtedly the most important in the ripening of a

hard cheese, it is not the only organism. What the others are has not yet been determined, but the most important I have yet discovered is one which remains alive in the cheese long after the lactic acid has disappeared. This seems to play an important part in the formation of flavour, and it may be termed the *Micrococcus Cheddarensis*.

As yet we know little about what bacteria do with their food. I have already shown the old assumption, that the lactic acid bacteria convert the sugar into lactic acid to be doubtful. The probability is that in using a proportion of the milk-sugar they manufacture out of the residue an enzyme which, just as the sugar is capable of passing into the cell by means of osmosis, is itself capable of passing out of the cell by the same method. The lactic acid is due to this enzyme.

FLAVOUR IN BUTTER.

There can, however, be little doubt that, out of the milk-sugar which they do consume, the lactic acid bacteria produce aromatic substances or flavouring materials, which also find their way into the milk and are there rapidly absorbed by the fat globules. Hence it is that the more sugar the bacteria have to feed upon the greater the production of flavouring matter. This accounts for the full flavour of butter made from slightly sour whole milk, or as it is called in some districts, lapped milk. Also for the full flavour of butter made from the cream taken from shallow pans, and, *vice versa*, for the very poor flavour of butter made from very thick cream obtained by the separator, which cream does not contain sufficient material for flavour production.

The second point of practical importance arising out of this question of the feeding of bacteria relates to the well-known fact that, in order to secure good flavour and prevent the development of butyric acid, it is necessary to stir ripening cream frequently in such a manner as to ensure the air getting into it. The lactic acid bacteria cause oxygen to disappear, and carbonic acid to take its place. Hence ripening cream is soon deprived of its free oxygen, and impregnated with carbonic acid. This permits the butyric acid bacillus, which is an anærobic organism, to commence its work. A common error is that the butyric acid bacillus feeds upon the casein. What it feeds upon is the lactic acid previously produced by the lactic acid bacilli, but it can only so feed provided the oxygen has been absorbed, and to prevent this the cream is stirred.

VENTILATING THE CHURN.

The fact that cream contains a large amount of gas, which necessitates the churn being ventilated when churning commences, has given rise to the erroneous idea that the lactic acid bacillus produces gas. But a moment's thought should prove to anyone who has made cheese that this is impossible, for one could never get a more and more solid curd as the acid developed if the product of this acid was a gas.

The lactic acid bacteria ordinarily met with in dairy practice produce no gas. The carbonic acid found in cream is the result of the change which they have brought about in the air present in the cream, and is also more or less due to the action of other bacteria too frequently present in cream and which were better absent. I refer to bacteria that produce taints, a common cause of inferior butter, for these generally do produce carbonic acid.

CREAM GOING TO SLEEP.

It is well-known that if the gas present in the ripened cream is not allowed to escape when churning commences, the cream will go to sleep. Very few understand why this is. Yet everyone knows what whipped cream is, and how cream greatly increases in bulk and becomes frothy if air is whipped into it; exactly the same thing happens when cream is churned and the gas given off is not allowed to escape, this gas gets whipped into the cream and so produces what is known as sleepy cream. This, however, is not the only cause of sleepy cream; there are others due to bacteria of which we know very little, and these need investigation.

THE SEPARATOR.

Although the separator is one of those appliances the value of which is now universally recognised, it is remarkable how few understand its working, or can give any explanation of the principles involved. Such questions as the following are often asked, but rarely answered correctly. Why is it necessary for the bowl to revolve at a definite speed? Why is there a loss of fat if the flow of milk into the separator is too rapid? If the bowl could not be revolved at the proper speed how could you prevent a loss of fat?

If a little milk is dropped on to the centre of a rapidly revolving table with a turned up rim, it will be seen to spread out into an extremely thin layer, and gradually tend towards the

circumference where it will accumulate and mount the rim. If more milk is allowed to fall upon the revolving table, this, too, will first spread itself out into a thin layer, then gradually tend towards the rim and lift the old layer up while it takes the place formerly occupied by that layer. This is exactly what takes place inside a separator bowl.

The milk, when it flows into the separator, falls on to the revolving bottom of the drum. There it is at once spread out into a thin layer, forces itself in this form beneath the milk already in the bowl and lifts this milk up. What we have then inside the separator bowl is a series of very thin milk layers, each one as it is formed lifting up those which were previously in the bowl. To prove the correctness of this explanation, for it is not the explanation usually given and supposed to be correct, I constructed a separator with a glass bowl, and to prevent accident surrounded it with a cage of fine wire gauze. It was thus possible to see what was taking place inside the bowl as the milk was admitted. In order better to study the course taken by the milk I took portions and added to each a different aniline dye, so that it might be strongly coloured and thus show better what happened to it when poured into the separator. Starting with the bowl full of ordinary milk, milk coloured red was next poured in. Immediately a thin layer was seen to form beneath the ordinary white milk, and this layer increased in thickness as more milk was poured in, but it never mixed with the white milk, it simply raised this up bodily. Having obtained a layer about $\frac{1}{2}$ inch thick, an equal quantity of ordinary milk was next put into the separator. This again formed a layer of white milk beneath the red milk, lifting up the latter bodily without mixing with it. Then came a layer of blue milk and again another layer of white milk, and now the bowl was distinctly divided into a series of coloured layers which did not mix but simply rose one above the other as fresh milk was poured in. What was also visible was the gradual separation of the fat in each layer as it rose to the top of the bowl. This was easily visible in some of the coloured samples, as the fat had taken up some of the colouring matter. Thus it became evident that the fat was gradually separating from each layer as it rose in the bowl. If we picture to ourselves this series of layers of milk in the bowl of the separator, it will be evident that in the layer just formed at the bottom of the separator the fat globules are equally spread throughout the mass. By the time this layer has been lifted up by the next portion of milk the fat globules have begun to tend towards the centre, and this action continues so long

as the milk remains in the bowl. Diagrammatically we may represent these fat globules as forming a cone within the bowl, as shown in Fig. 1.

But really the position of the fat is not quite so simple as this, for, owing to the greater velocity of the bowl at the circumference, the fat globules will tend to the centre faster at first than subsequently, and consequently the position which they take up is more probably that shown in Fig. 2.

If we can once fully realise this action of the separator upon the milk which flows into it, then it is easy to understand all the results which are found in practice. Let us call the bottom layer when formed, A. This layer will evidently take a certain time before it rises to the top of the bowl and passes out in two portions as cream and separated milk. It is essential that the time which it remains in the separator bowl is sufficient to enable the whole of the fat to pass into the cream apex, where this is removed by the cream skimmer.

If, however, we allow the milk to flow into the bowl too rapidly, then each layer formed remains in the bowl too short a time to permit of the fat globules collecting in the thin apex C, and we have the same result as if we skimmed the milk at B, evidently some of the fat would pass away with the separated milk. Another point which these diagrams enable us to understand, is the reason why we obtain thick or thin cream by closing or opening the cream outlet tube. When we close the opening we draw it nearer to the centre and so only take off the thick apex of the cream cone. But when we open it we enable some of the separated milk to pass out at the same time and so dilute our cream. For butter-making this is the best course to adopt.

Let us follow this explanation a little further. It is well-known that there are at present on the market many forms of separator. We may now account for their shape. When the body, or say rather the bowl, revolves around its centre it is evident that a point on the outside travels over a much greater space in a given time than a point anywhere between the outside and the centre. For example, let us assume that in Fig. 3, A is the bottom part of the bowl of a separator, the diameter of which is 12 inches. In one revolution any point on the outside would pass through a space of three feet, but the point half way between the centre and the outside would only pass through a space of $1\frac{1}{2}$ ft. Thus the force on the outside is double what it is three inches from the centre. If now we want to have a bowl only six inches in diameter and yet submit milk to the same force as it would receive in the larger bowl, it is

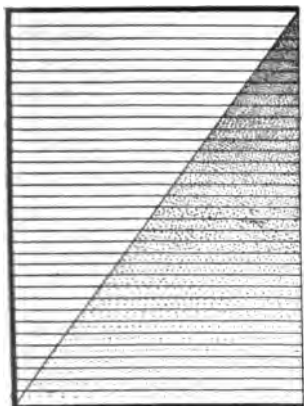


FIG 1.

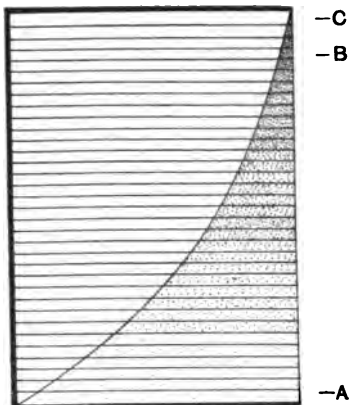


FIG 2.

The horizontal lines represent the milk layers.

The dots represent the fat globules gradually tending to the centre of the separator bowl.

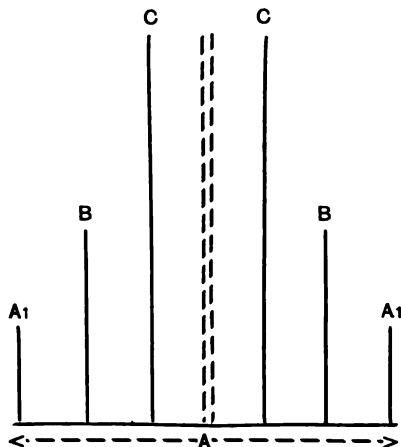


FIG 3.

evident that we can only do so by keeping the milk in the smaller bowl twice as long. This would mean separating only half the quantity of milk in a given time. But that will not suit the dairyman who wants to separate the milk as quickly as possible. So the manufacturer, in order that the milk may be kept in the smaller bowl twice as long as it would be in the larger, makes the small bowl B twice as high, while if he wishes to make the diameter still smaller, say a quarter of that of the bowl B, he must make the top four times as high, as shown at C. In this way the same quantity of milk may be passed through any one of these machines in the same time and be equally well skimmed, because in bowl B milk would remain twice as long as in bowl A, and in bowl C twice as long as in bowl B. This is not a quite correct statement, firstly, because there is a hollow column in the interior of the bowl where there is no milk. and, secondly, because the velocity of the milk, and, therefore, the force to which it is subjected in A, is really greater than in B, and again in B is greater than in C. This difficulty has, therefore, to be overcome, but it is easily overcome owing to the fact that the greater the diameter of the bowl the greater the difficulty and danger of revolving it at a high speed, while as the diameter is reduced the speed may be increased, and this fact is made use of in the modern separator. The efficacy of a separator may, therefore, be said to depend upon the force exerted multiplied by the time to which each individual layer of the milk is submitted to that force during its upward passage through the machine. If, therefore, we diminish the speed of a given machine, we must at the same time diminish the inflow of milk, so that each layer of milk may take longer in passing through it. On the other hand, if we increase the inflow we must increase the speed, or each layer of milk in passing through the machine will be submitted to a force insufficient to separate its fat globules.

THE BUTTER-WORKER.

No appliance used in dairying is manipulated with so little knowledge as the butter-worker. In many cases this appliance has not been so well constructed as it should be. Some manufacturers do not seem to understand the proper use of the worker any more than those who use it. The stand of the butter-worker should be so made that the top is level with the floor and both ends of equal height. Attached to the underside of the bed of the butter-worker, there should be two sloping triangular pieces of wood, having pegs to fit into corresponding holes

in the stand. One of these triangular pieces should be much larger than the other so as to give the bed of the butter-worker not only a side slope but also a slope from end to end; many butter-workers are to my knowledge not so constructed. When the butter-worker is not in use, the top should not rest on the triangular strips but be placed flat on the stand. Not only should it be always kept in this position, but it is in this position that it should be washed and prepared for use, and also kept with the water on it until it is to be used. As one end of the butter-worker table lifts out and is not water tight, it is necessary that this end should be raised slightly by a plain strip of wood about $\frac{1}{2}$ inch thick, placed underneath at this end. Water would then completely cover the bed of the worker without running out at the end. Frequently the stand is so large that it is almost the size of the bed, and this prohibits the bed being placed flat upon it as it should be. The stand should be at least eight to twelve inches shorter than the bed. The slope under the bed of the worker nearest to the plug-hole should be at least four inches away from the end, and, when the bed is lifted down on to the stand, this edge should project six inches over the stand and so allow space for all the wash-water to be easily drawn off into a bucket beneath. For making up the butter, the bed of the worker should be again placed level on the stand so that the end forms a flat table. To see a pupil trying to make up well-shaped pounds of butter on a sloping table is to watch an attempt at the impossible. Hence, for making-up, the bed would be let down on the stand, but instead of being slightly raised as for washing, so placed as to be absolutely level.

VI.—BRITISH FORESTRY.

By W. R. Fisher, M.A.

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I.—INTRODUCTION.

The main difference between British and Continental forestry consists in the fact that the latter deals largely with State forests, which have been systematically managed for several generations, and, consequently, show to great advantage when compared with our home woods, which have not usually been treated in accordance with any continuous policy. There are no State forests in Britain,

and it is only quite recently that the Commissioners of Woods and Forests have introduced systematic management into the small area—about 100,000 acres—of Crown forests that remain to us. Formerly the area of Crown forests in England was considerably larger, but much of it has been converted into farms, or given to private owners by our former Sovereigns, while large ecclesiastical woodlands were given, or sold, to private owners, when the monasteries were suppressed in England, Ireland, and Scotland, so that there is practically no Crown land* in the latter country and very little in Ireland. Many of the best State forests in France were formerly the property of Convents that were suppressed during the French Revolution, and this example set by France of converting ecclesiastical into State forests was speedily followed by the other European countries.

Next in importance to the State forests on the Continent are those of Communes and Public Establishments, such as hospitals and colleges, all the larger areas of which are managed by the State, as well as other landed property belonging to such bodies, only the net-revenues being handed over to the latter. There must be a considerable area of woodland in this country belonging to colleges and hospitals, as well as to the State Church, and it is probable that if this were under State management it would soon become far more profitable than it is at present.

There are also on the Continent enormous areas of private forest, the management of which is sometimes very good, but often no better than in Britain. The only interference exercised on the Continent with respect to private forests is that in certain German States, such as Wurtemberg, a landowner cannot disafforest his woodland without the consent of Parliament but must re-plant it within a year or two after felling. If he cannot afford to do this, or otherwise neglects to plant it, the bare area is replanted for him by the State and a bill sent in, and if he does not pay, the land is confiscated by the State, the former owner being paid its wasteland value. It then becomes permanent State forest. Another exceptional interference by the State is, however, made in the case of mountainous tracts that are liable to denudation if left bare of wood, and, consequently, would cause the silting-up of rivers and disastrous floods; also where there are shifting sands. In both these cases, land is acquired by the State and planted in order to protect neighbouring tracts of country.

* An area of 12,500 acres near Loch Awe has just been purchased by the Crown.

2.—FRENCH FORESTRY.

If we take France as an example of Continental forestry, out of a total woodland area of 24,021,000 acres—18.13 % of the acreage of the whole country—the ownership of the forests is distributed as follows :—*

State forest	12.0 %
Communal and Public Establishment forest, managed by the State	20.2 „
Ditto, not managed by the State	3.1 „
Private forest	64.7 „
Total ..	100.0 „

The distribution of these forests, as regards altitude, is as follows :—

Lowland up to 1,200 ft.	60.14 %
1,200 ft. to 2,400 ft.	18.99 „
2,400 ft. to 4,800 ft.	19.46 „
Over 4,800 ft.	1.41 „
Total ..	100.00 „

Six-tenths of the French forests are, therefore, at about the same altitude as our own woodlands, and, except in the lowlands of the south of France, where evergreen oaks, Aleppo and maritime pines predominate, are stocked with the same species as our own, namely, sessile and pedunculate oaks, beech, hornbeam, sweet-chestnut, hazel, silver-fir, Scots pine, spruce and larch. Species, such as ash, elm, birch, and sycamore, are scattered among the other broadleaved trees, while poplars, willows, and alders are grown chiefly by private owners on lands liable to inundation in the French river-valleys.

The systems of management that prevail in France, are :—

Simple coppice	38 %
Coppice-with-standards	35 „
High forest	27 „

As 20 % of the French forests are coniferous, and 80 % broadleaved, it follows that only 7 % of the high forest is broadleaved, conifers being, necessarily, managed as high forest. Of the broadleaved forest, 35 % is devoted to the production of sessile and

* Huffel, *Economie Forestière*. Tome I., 1904.

pedunculate oak, either in high forest or as standards over coppice. 4 % is evergreen oak, and the rest consists of beech, or other broad-leaved species, chiefly hornbeam.

The annual yield of the French forests is as follows :—

Large Timber	Oak	100,000 tons of 35 cubic feet.		
	Beech and other broad- leaved trees ..	100,000	”	”
	Conifers ..	600,000	”	”
Pit-props, pulpwood and other poles ..		3,500,000	”	”
Firewood ..		14,000,000	”	”
Total ..		18,300,000	”	”

This is valued at £4,400,000, or about 4s. 9d. a ton, when sold standing in the forests—a mode of sale that is almost universal in France. Its value would be doubled when converted and brought to the timber-market.

The average annual production per acre in volume of wood, and in net-revenue, in the different classes of forest, is :—

		Cubic feet per Acre.	Shillings per Acre.
State forest .. ..	..	42	10 0
Communal, &c., forest, managed by State .. ..	..	36	6 0
Privately managed forest ..	..	40	5 7

The comparatively small volumetric yield of Communal forest is due to the position of large areas of this class in mountainous districts, while private woodlands are chiefly in the plains and are largely coniferous, consequently yielding more timber. The higher pecuniary yield of the Communal forests is due to the skilful management of the State officers.

Mr. Huffer gives the expenditure only for the State forests, though that of the Communal forests is, probably, about as much, except that it pays taxes as well as rates. That for the State forests is :—

		s.	d.	
Pay of officials .. ..	..	1	0	per acre
Maintenance charges ..	..	0	6	”
Local rates .. ..	..	0	9	”
Total ..		2	3	”

Hence, the average gross-revenue of the French State forests is 12s. 3d. and the net-revenue, 10s per acre.

3.—YIELD OF FRENCH FORESTS.

I will now give some examples, taken from various kinds of French woodland, that show their yield in material and money.

The French poplar-woods are usually in patches of a few acres each belonging to the peasantry. Mr. P. Mouillefert* gives, in detail, the case of Canadian poplars, planted 20 feet apart, or 109 trees to the acre, which in 35 years contain about 100 cubic feet each and sell at £1 8s. 0d. a tree, or £143 per acre.

The cost of production is as follows :—

			s.	d.
Purchase of plants @ 6d. each	..	..	55	0
Planting @ 2d. each	..	..	18	0
Replacing 20 % of failures @ 9d. each	..	..	16	0
Rates	..	..	0	9
			89	9

or, say 90s. per acre.

Now, 90s. at compound interest of 3 % for 35 years, will amount to 253s., say £13, so that the profit is £130, for 35 years, or, supposing that the land belongs to the planter, and he pays no rent—the usual case—he gets over 10 % for his capital expenditure, including compound interest for 35 years.

These poplar-woods are usually sold, when mature, *en bloc*, to travelling wood-merchants, who bring the saw-mill plant with them by traction engines, the engine working the saw-mill, and they fell and convert the whole wood, which is then re-planted by the landowner.

Next to these poplar-woods, the most profitable woodlands in France are the silver-fir forests of the Vosges and Jura. There are 200,000 acres of forest in the Vosges Mountains, seven-tenths of which are under State control, and the rest are private forests. The proportion of the different species is generally as follows :—

Silver-fir	..	..	..	61.2	%
Beech	..	..	..	28.2	„
Spruce	..	..	..	7.8	„
Scots pine	..	..	..	2.8	„
				100.0	„

The silver-fir forests of the lower Vosges are on the new red sandstone and contain only 10 % of beech and pine and scarcely any spruce; those of the Upper Vosges are on granite, and contain

* Exploitation et aménagement du bois, Paris, 1904.

more beech and spruce. The former are the more productive and yield, on the average, about 100 cubic feet of timber annually per acre, valued at about 30s., while on the granite the yield is about 77 cubic feet per acre, valued at 20s. Prices of silver-fir timber are, however, steadily rising.

The great industrial activity of this region and the prosperity of the people should be seen to be completely realized. Sawmills, large and small, abound, mostly driven by water-power; paper-mills; linen-factories, the flax being imported from Russia; pasture for the cattle employed in timber-transport, and immense granite and trap quarries, afford a constant demand for labour. The summits of the granite mountains that are too elevated for tree-growth afford summer pasture for fine milch cattle, but sheep-grazing is unknown.

The Communal forest of Celles, near Raon l'Etape, is one of the richest of the Vosges silver-fir forests. Its area is 420 acres, on poor sandstone rock, with fairly steep but sheltered hill-sides that are absolutely fit for nothing but tree-growth: the mean altitude is about 1,200 feet above sea-level. The annual yield of this forest is 60,000 cubic feet, or about 130 cubic feet per acre, which at 5½d. per cubic foot, the average price of the standing timber, produces a gross annual income of £3 5s. per acre, from which 8%—or say 5s. per acre—is annually deducted for expenditure, including supervision by the State. The regeneration is almost entirely natural, and the inhabitants get a yearly revenue of £1,275 net, from their little forest, which goes far to pay for their roads, schools, etc.

There are even finer and more productive silver-fir forests in the Jura, than in the Vosges. They are situated on Jurassic limestone, and the forest of Levier, near Pontarlier, in 1895, contained 5,950 cubic feet per acre of trees 20 inches and over in girth, besides smaller material, on an area of 6,725 acres. Its annual yield is 140 cubic feet per acre, selling at £3 gross, and, as it is a State forest, the expenditure is not probably above 3s. per acre.

In the Landes of Gascony, there is an area of 1,630,000 acres of maritime pine, all afforested since 1800, at a cost of 17s. per acre, for draining and sowing. It now produces an average net-revenue of 10s. per acre, for timber, resin, and turpentine, and the re-stocking is done almost entirely by natural seedlings. The actual value of this desolate, sandy tract, before it was stocked with trees, was less than nil, for it was covered with shifting sand, that caused immense damage to neighbouring cultivated lands, or with shallow malarious lagoons, that have now been drained.

Chestnut coppice, near Paris, is particularly productive. Mr. T. Leddet, the inspector of forests at Versailles, has kindly supplied me with the following figures. There are in his district, 25,000 acres of these woods, 7,500 acres being under State control and the rest privately managed. The rotations adopted by the State are 25 to 30 years, and 8 to 15 by private owners.

The yield per acre is as follows :—

	Timber cubic ft.	Firewood cubic ft.	Faggots No.
12 years rotation	.. 280	700	560
28 " "	.. 1680	520	400
30 " "	.. 2100	520	320

As the cubic feet are measured for stacked timber and firewood, one quarter may be deducted from the yield of timber and one half from the firewood, in order to arrive at the solid cubic feet in each category.

The smaller chestnut poles are used as follows :—

Fencing-stakes	..	.. 5 to 10 feet long
Split laths for palings	..	.. 3 to 6 " "
Vine-props	..	.. 3 $\frac{3}{4}$ to 5 " "
Roofing laths	..	.. 4 $\frac{1}{2}$ " "
Hoopwood	..	.. Small poles.

The larger poles are sawn into planks for *parquits* and furniture. At 25 years, the crop is sold standing for about £17 10s. per acre, and in exceptionally good crops, for £24. A crop 30 years old is sold standing at from £24 to £36. Chestnut trees above 3 $\frac{3}{4}$ feet in girth at chest height are sold at 8s. 10d. a cubic foot, in proportion to their size. Trees above 5 $\frac{1}{2}$ feet in girth are generally shaky and fit for fuel only.

A typical example of coppice-with-standards is the Communal forest of Landremont, on lias clay, near Pont-a-Mousson. This, from 1881 to 1885, produced annually per acre 84 solid cubic feet of wood, which was sold for £1 5s. 6d., the net-revenue being about £1 per acre. The oak timber from the standard trees was about 17 cubic feet per acre annually, the rest of the produce being firewood. The State forest of St. Amand, on Miocene sand with loam above it, consists of 8,000 acres, 2,000 of which are under pines. These are being gradually converted into coppice-with-standards, producing about 58 solid cubic feet per acre annually, of which about 40 cubic feet is timber and only 18 cubic feet firewood. The gross revenue is £1 12s. 0d. per acre, from which about 9s. 6d. per acre should be deducted for expenses.

The finest oak high forest in France, belonging to the State, is that of Bercé, in the Département de la Southe. It contains 10,000 acres of deep moist loam, with 3,600 acres of sand, the latter stocked with Scots pines. The rotation for oaks is 210 years, and oaks 200 years old have a mean diameter of 19 inches and a height of 97 to 123 feet. Boles of 90 feet, without a branch, are not uncommon. On 2,750 acres, the best part of this forest, during the years 1893-1899, the annual production per acre was 65 cubic feet, which sold for £2 5s. 3d., the net-revenue being £2 2s. 9d.—probably the largest known in Europe for a broadleaved forest. The finest crop in the forest, 192 years old in 1887, when it was last measured, contained 125 trees per acre (118 oaks, seven beech), measuring 10,976 solid cubic feet.

To cite an example of a fine beech forest, with 10 % of oak, that is being gradually raised to 30 % chiefly by the artificial planting of oak saplings among the naturally sown beech and hornbeam, there is, near Villers Cotterêts, in the forest of Retz, a crop 183 years old that in 1895 consisted of 66 trees per acre, nearly 150 feet high, and containing 10,712 solid cubic feet.

There are about 200,000 acres of larchwoods in the Alps, growing either pure, or mixed with mountain and Cembran pines. The trees are isolated, not above 60 feet high, and do not exceed 17 inches in diameter, and under them is good mountain grass, which affords splendid pasture for cattle. The larch trees prefer northerly and easterly aspects and yield excellent timber, but, owing to their remote situation, they are valued more as shelter trees than for their yield in timber, which is quite insignificant. The altitude is over 6,000 feet.

The best spruce forest in France is the Communal forest of Vailly, in Savoy, which comprises 300 acres on marl, at 3,500 feet mean altitude. It is composed of half spruce and half beech and yields about 52 cubic feet per acre annually, valued at 2s. 6d. only.

One of the most interesting forests in France is the Communal forest of Bedoen, in Vaucluse, on Mount Ventoux, on the left bank of the Rhone. The forest is on the southern face of this mountain, at altitudes varying from 300 to 6,000 feet above sea-level, and produces examples of nearly all the European forest flora, from Aleppo pine below to mountain pine and Alpine plants above. *Quercus Ilex* predominates up to 2,275 feet, and is then gradually replaced by *Quercus pubescens*, termed locally the white oak, which forms a pure crop at 2,600 feet and up to 3,250 feet, when beech appears, with a few silver-firs. At 4,870 feet the mountain pine is found. In 1861 there were 10,000 acres of blanks, three-

quarters of which have since been re-stocked, at a cost of £9,600, or £1 4s. 0d. per acre. This was done by sowing acorns of the two oaks in patches, and within 12 to 15 years of these sowings there was a remarkable development of truffles, the sale of which, up to 1859, brought in only £32 a year. Since 1871 this sale has increased from £92 to £2,200 in 1892, but in 1897 it went down to £1,560. The truffle grows on the roots of the white oak, at about 2,600 feet altitude, and is sold at three to nine shillings a pound.

The annual revenue per acre of this forest, according to Mr. Brive, the inspector in charge, is as follows :—

	s.	d.
Truffles	3	0
Pasture	1	0
Wood and bark	0	5
Lavender	0	2
Honey and wax	0	1½
Total	4	8½ per acre.

To the foregoing account of the French forests, it may be added, that the French prefer to grow in each region the species that are there indigenous, and that their forests are almost entirely reproduced by seed, or by coppice-shoots. Artificial re-stocking is rare, and, except in the case of oak and other saplings planted in coppice-with-standards, or in beech high forest, is usually effected by sowing. Besides having planted the desolate region of the Landes, which has been already alluded to, the State has spent large sums in re-stocking mountain forests and bare hillsides, in order to prevent soil-denudation and floods. For this latter object £131,000 was provided in 1905, as well as £50,800 for re-stocking wasteland, improving river-fisheries, maintaining protective sand-dunes, and other works of protection and improvement.

4.—REPLANTING OF WASTELANDS IN BELGIUM.

Belgium is a country of about twice the area of Yorkshire, with one-sixth of that area under woods, as contrasted with one-twenty-fifth in the British Isles. In 1850, there were in Belgium, the following areas of wasteland :—

State	17,140	acres
Communes	145,267	„
Private lands	423,322	„
Total	585,729	„

Mr. J. N. Crahay, the Director of Belgian forests, has just informed me that the wastelands in Belgium, still unplanted, are now :—

State	5,500	acres
Communes	117,500	„
Private	225,000	„
<hr/>		
Total	348,000	„

Hence, 237,729 acres of wasteland have been planted since 1850. This planting, by State forest officers, is still proceeding, at the rate of 2,500 acres a year, in the Communal wastelands, by the help of subsidies allowed by the State and the Provinces, while private owners are also planting about 2,500 acres annually. In spite of its comparatively large area of woodland, Belgium imports annually about £6,000,000 worth of forest produce, or of manufactured articles made of wood, while it exports only £600,000 of such products, much of which is beechwood and osiers. The methods adopted in Belgium to advance forestry are, first, the purchase by the State of private woods and wasteland, and planting up the latter; in this way, £212,960 was spent between 1897 and 1905. Secondly, Municipalities and Communes are subsidised by the State, in order to enable them to plant their wastelands. Thirdly, private landowners are assisted by advice, given to them by experts, and also by the loan of State forest officers to manage their woodlands.

The area planted with spruce at Fays de Lucy, in the Belgian Ardennes, in 1857,* contained, in 1892, 5,880 solid cubic feet per acre, its value, at 3d. a cubic foot, being £70 per acre. In 1907, the crop then 53 years old, contained 8,260 cubic feet per acre, and, at 4½d. a cubic foot, was worth £144 per acre.

A compartment in the Mirwart forest, also in the Belgian Ardennes, and managed by Professor Schlich, was sown in 1875 with 8 lbs. per acre, of Scots pine seed. Thinnings were commenced in 1891, and have yielded £11 per acre net. When I last saw this crop, in 1905, the trees were 48 feet high and 19 to 20 inches in average girth. They will be felled in 1913, when 38 years old, and are expected to yield £64 per acre, as pit-props.

5.—BRITISH COMPARED WITH FRENCH OR BELGIAN FOREST CONDITIONS.

Before instituting any comparison between British and French or Belgian woodlands, we must consider how far the conditions that prevail in each country vary. *In the first place, except in*

* Journal of Forestry, October, 1907.

our large towns, there is no great demand for firewood in this country. Owners of coppices near Oxford, have, however, no difficulty in selling inferior underwood, which is there made up into neat little bundles of kindling material, to householders at 1s. 8d. a hundred bundles. These weigh 3 lbs. for five bundles, costing 1d., while in London only 1 lb. of kindling wood is obtainable for 1d. In Devonshire, large faggots, measuring 5ft. in girth, and weighing 50 or 60 lbs. each, are sold for 1d., being one twentieth of the price paid at Oxford and one-sixtieth of the London price. This tends to show that if good canal communication were afforded, there would be a margin for profit in firewood grown in Britain, especially in those parts of Ireland where the bogs have been cut out and there is no coal.

Secondly. Natural regeneration by seed or by coppice-shoots is almost universal in France. The number of natural seedlings that spring up render a young thicket of oak, beech or silver-fir dense in a way that cannot possibly be secured by planting, while the cost of the re-stocking of a wood is thus practically nil, only about 5% of the felling-areas in high forests in France being restocked artificially. Standards-over-coppice are, however, in France and Belgium chiefly regenerated by planting strong saplings of oak, ash, or poplar. It is remarkable that the regeneration of standards in English coppices is left chiefly to natural seed, and it is largely owing to the inadequacy of this method that so many of our coppices yield such a poor revenue.

Natural regeneration by seed is not, however, otherwise unknown in Britain, as we find it in the Chiltern Hills beechwoods, in Scots pine woods in Windsor forest and at Woburn, also in some Scotch woodlands. The presence of rabbits alone prevents this in most of our woodlands. I recently visited a wood in Norfolk, on the Lower-greensand, where, owing to the recent exclusion of rabbits, seedlings of almost all the species in the area, indigenous or exotic, are springing up in numbers. Corsican pine is also regenerating itself by seed on the sand-dunes of Holkham, in Norfolk, which were planted with several species of pines, about 50 years ago, by Lord Leicester, so that all the gaps between the older branchy pine trees are being rapidly filled up with fine Corsican pine poles and saplings of different ages. Ash and sycamore regenerate freely from seed in all our woods where these species occur, so do birch and oak in the Weald districts.

Thirdly. We cannot in Britain follow the French plan of growing only indigenous species in economic woods. The northern parts of England, the whole of Ireland and nearly the whole of Scotland

and Wales, were cleared of their indigenous forests in the Ice Age, which only the southern parts of England escaped. Hence, our indigenous timber species are but few in number, and we have to cultivate valuable exotics, such as larch, spruce, Douglas fir, Corsican pine, sweet-chestnut and Weymouth pine, to which experience will probably add others, chiefly from North America. In this paper I do not propose dealing with purely ornamental trees but only with those which can be grown for profit.

Fourthly. Our area of woodlands being very small, about 3,000,000 acres for the British Isles, the question of planting wastelands, and thus increasing our woodland area, is of far greater importance for us than for the French and Belgians, though they both have shewn us how to utilize wastelands. In France this has been done chiefly by the recent planting of the Landes, and in Belgium by planting the shallow bogland on the Ardennes plateaux, where sheep-grazing has entirely given way to the planting of spruce, and this, in spite of the fact that the neighbourhood of Liège comprises one of the largest centres of the woollen industry in the world. Nevertheless the Belgians now get most of their wool from Australia.

6.—INCREASE IN THE PRICE OF TIMBER.

Timber is probably dearer in Britain than anywhere else, owing to our dependence on foreign supplies, and the fact that prices are steadily rising was clearly shewn at the recent Conference on Afforestation in London. There, Professor Schlich showed that between 1900 and 1906, the average price of all imported timber had risen by 17 % and that of conifers by 23 %. Mr. Parry, the chief engineer of the Liverpool Waterworks, also said that at Liverpool the average price of imported coniferous timber had risen in the last 10 years by 50 %. I have recently heard, on good authority, that imported planks, used for box-making, have, in London, risen in price since 1904, by 60 %. The enormous world consumption of wood for paper-making, probably accounts for this great increase in price. In Canada, and other timber-producing countries formerly only mature trees were felled, the poles being left to grow up, but now it is the poles that are chiefly used for wood-pulp, from which paper is made. The demands for paper are not likely to be reduced, nor are substitutes for wood-pulp likely to be discovered.

The question of greatly extending our inadequate area of woodlands, and of improving the management of existing ones, is an urgent matter ; it remains to be seen how this should be done.

7.—TREE-GROWTH IN BRITAIN.

There is not a more favourable land for successful forestry than the British Isles. The moist maritime climate, especially of the West of England and Scotland and of the whole of Wales and Ireland, is exceptionally favourable. Even the Irish bogs at their base almost all contain stumps of trees. The bog on the Wicklow Mountains, when stripped down to the granite gravel on which it rests, shows the remains of a regular Scots pine forest, the red heartwood of the trees being wonderfully preserved by the peat. On lower lands in Ireland there is oak below the peat, while charred ash, found in the tumuli of old Irish Chiefs, shows that oak, pine, and ash were formerly widespread in Ireland. We have indigenous hornbeam in Essex on the London clay and indigenous beech on the higher land there and on the Chiltern Hills, where it persisted throughout the Ice Age, being the northerly barrier of the great beech forest of Europe. Pedunculate oak forests stocked the Wealden districts and all our belts of clay, up to the lowlands of Scotland, while sessile oak is indigenous on the Lower greensand, on the Millstone Grit plateaux of the Midlands, in the Lake District, on the Welsh, and Devonshire Hills, and in Scotland, while in Ireland it appears to have been the chief tree of the low hills, the summits of which were stocked with Scots pine. Scots pine flourishes on sandy lands throughout the United Kingdom.

In the beech and oak woods, Wych elm, sycamore, ash, cherry and yew occur sporadically and birch is ubiquitous. Ash springs up in our forests, wherever there is sufficient depth of soil and moisture, but can never compete long with oak, beech, or Scots pine. Poplars, tree-willows and alder grow beside our watercourses. All our other forest trees, such as sweet-chestnut, have been introduced since the Roman invasion of Britain. Our hedgerows are full of English elm which is always reproduced by suckers. It is usually named *Ulmus campestris*, but Mr. Henry states that it is a variety of the Continental elm, *Ulmus glabra*, and a variety that has become adapted to our climate and is not grown abroad. Spruce, larch, Canadian and white and grey poplars, Corsican pine, black pine, Weymouth pine and Silver-fir have all been introduced from abroad as well as, more recently, Douglas fir, besides a host of other exotics, the economic importance of which is still doubtful. On suitable soils we are quite certain about the excellence of our oak, ash, and beech timbers, the quality of which, when properly grown, is unrivalled. Our best Scots pine is also of first-rate quality, as at Woburn and in Aberdeenshire.

In spite of larch-blister, it is quite possible to raise remunerative crops of larch in suitable localities, especially when the soil is fairly deep, moist and well-drained; larch-disease is rare in Ireland, though it occasionally occurs, as in County Sligo. Silver-fir is subject to serious attacks by *Coccus coccineus*, which render the cultivation of the tree of doubtful utility in parts of England and Scotland, but splendid silver-firs grow in Ireland, in the Western Highlands, and in Devonshire. Spruce is very liable to red-rot, and it appears useless to grow it with longer rotations than from 60 to 70 years.

Weymouth pine, owing to its shadebearing character, is a most useful companion of Scots pine, but it is liable to severe attacks of woolly aphis, and of a destructive fungus, *Peridermium Strob.* Sweet-chestnut grows admirably in the south of England, where it reproduces itself freely by seed, but it becomes shaky when old, though it appears to be free from this defect on suitable soils in Ireland. Its coppice-growth, on all but calcareous soils, is admirable and fully equal to that near Paris, already described.

Poplars and alder grow as well with us as in France and should be more extensively cultivated. Our willows and osiers produce most valuable produce on land liable to inundation.

Douglas fir has now been grown experimentally in Great Britain long enough, for its plantation to be undertaken on a large scale in situations sheltered from westerly gales. Provided the Pacific variety be planted, the trees will probably yield a larger volume of timber per acre than any of our indigenous trees, while in quality its timber comes next to that of larch. Corsican pine withstands the Atlantic gales better than any other conifer and yields excellent timber. Black pine, owing to its branchy nature, should not be planted, except on hot, dry, calcareous soil, where it is frequently the only species that will thrive. It affords a splendid humus from its fallen needles, and thus enriches the soil for a better species, as a second crop.

8.—SYSTEMS FOLLOWED IN BRITAIN.

There is one resource we have in Britain that is much less frequent on the Continent, namely our wealth of *Hedgerow and Park trees*. It is among this class that most of our fine elm trees, also many ash and oak, appear, while in Ireland conifers are largely grown in hedgerows. Pollard willows allign many of our watercourses and afford valuable wood for hurdles. The dense and lofty hedges in Devonshire supply large quantities of firewood. Mr. T. W. Webber.

in a report published by the India Office, in 1873, states that in the Wealden districts of Kent, Sussex, Surrey and Hampshire, oak regenerates naturally in the hedgerows, and the sale of these trees, when mature, often yields more to the landowner than the rent of his farms. Mr. Broillard, in his book on the private forests of France, refers to English hedgerow timber, which gives our country a well-wooded appearance, and praises us for not pruning it. I am, however, afraid that such trees are often injuriously pruned and lopped, while nails and wire attached to them makes the sawmill owner hesitate to offer an adequate price when they are sold. Many of our park trees also are allowed to stand till they become stag-headed and unsound. Oak trees after they have become stag-headed take 30 or 40 years and more to die, and all this time is lost to the owner in the growth of saplings to replace them, as well as in the value of their timber. A tree should be felled and replaced by a healthy sapling as soon as it shows the first signs of decrepitude, and the beauty of our parks would gain much by such action; a park is not intended to be a hospital for dying trees. The quantity of sound timber lost to the country by allowing trees to die standing must be very considerable, and there is, in addition, the loss to the labouring classes, who would otherwise fell, convert, and utilize the timber, if the trees were cut before it was too late. Sentimentalism in keeping up dying timber deprives the country of much wealth, and eventually leaves a park bare of everything but young trees, while, by gradually cutting out and replacing what is over-matured, the perpetual beauty of the park would be maintained.

The systems under which our woodlands are grown are: *simple coppice*, as for osiers, ash, alder, and sweet-chestnut for poles, hazel for hoopwood, and oak for bark, pit-props and fuel. *Coppice-with-standards*, in which oak, ash and larch are the chief standards, but to which sycamore, poplars and black walnut may be added with advantage, is still the most extensive form of English woodland. *Selection* high forest, with natural regeneration by seed, is carried on in the Chiltern Hills beechwoods. High forest, chiefly of conifers, larch, Scots pine and spruce, occurs largely in Scotland, under the clear-cutting system, with artificial replanting. It is more rarely, as at Woburn or in the Bagshot sands district, accompanied by natural regeneration from adjoining woods, in the case of Scots pine. The *shelterwood compartment system*, in which a mature crop is gradually felled and replaced by seedlings from the mother trees, and which is the prevalent system in French broadleaved high forest, is not employed in Britain.

Owing to the present slack demand for inferior hazel underwood, which is so extensively grown under the oak standards in our coppice-with-standards woods, many landowners are tempted to convert their woodlands into high forest. This is also the case with the extensive simple coppice woods of oak. These formerly yielded a fair return for tanning bark, but at present not more than 2s. 6d. per acre annually is realised—barely enough to pay local rates.

Our high forests are often very inferior because they were planted with a mixture of conifers and broadleaved trees, and, as the former are cut out before the latter are mature, a half crop of branchy broadleaved trees is left, quite insufficient to cover the ground, the natural regeneration of which is largely prevented by rabbits, and it also becomes covered with bracken, brambles and other growth. There are also many areas of pure oak high forest, as in Windsor Forest, Alice Holt wood and the Forest of Dean, where a mixture of beech has either never been grown, or has been cut out or destroyed by rabbits, with disastrous results. These woods generally date from 1815-20, when £300,000 was voted by Parliament to plant oak for the Royal Navy, but the present stock of oak trees is very inferior, being branchy and short-boled. They should now be gradually converted into mixed oak and beech woods, and, if properly managed, would eventually be fully equal to the best oak woods in France. This conversion is being carried out for nearly all Crown oak forest, except the 1,200 acres of oak wood in the Windsor forest. The writer has published a scheme for dealing with these Windsor oak woods, but hitherto no action has been taken by the Commissioner of Woods and Forests, these woods being full of rabbits. There are surely enough rabbits in the Great Park of Windsor—4,000 acres—for the shootings, and it would conduce greatly to the beauty and value of the Windsor forest were stately oaks produced on these 1,200 acres, which are outside the Park, instead of the poor branchy crop that now prevails.

The Chiltern Hills beechwoods are fairly well-managed and have reproduced themselves naturally by seed since the ice-age, when they formed the most northerly tract of woodland in Great Britain, except, here and there, Scots pine, which probably existed on the high land that remained free from glaciers.

9.—BRITISH WOODLANDS.

(a)—*Simple Coppice*.

Under the above heading osier-beds naturally come first, and an excellent paper by Mr. Ramaiengar, in the April number of the

"Journal of Forestry," gives the fullest details of some osier-beds, belonging to the Duke of Northumberland, growing on islands in the Thames near Sion House. The annual yield per acre is 115 bolts (of 40 inches girth) of unpeeled rods, and the items of expenditure and income for six and a half acres are as follows :—

EXPENDITURE.			£	s.	d.
Cutting 1,500 bolts, @ 6s. a score	..	22	10	0	
Sorting 750 " @ 5s. "	..	9	7	6	
Peeling 560 " @ 10d. each	..	23	6	8	
Making 1,500 baskets @ 7½d. each	..	156	5	0	
Planting 5,000 slips @ 2s. 6d. per 1,000	..	0	12	6	
Weeding 6½ acres	..	5	0	0	
Trenching, etc.	..	3	8	4	
			£236	10	0
INCOME.			£	s.	d.
Sale of 60 bolts @ 8s.	..	24	0	0	
Value of 5,000 baskets, @ 15s. a dozen	..	312	10	0	
			£336	10	0

Profit £100, or £15 7s. 8d. per acre.

It appears that 115 bolts per acre gives only 750 bolts for the 6½ acres, but the 1,500 bolts that are cut annually are bolts of only 20 inches in girth—half the standard size.

I understand that the cultivation of osiers is extensively carried on in Somerset and with financial success, but I have not myself seen these osier-beds. When it is considered that the demand for wicker chairs, baskets and hampers in this country is enormous, and that the mails are regularly carried in strong wicker-baskets, it will be realised that osier-growing in this country, and especially in Ireland, where the moist climate is very favourable for their production, should become a profitable industry, afford much work to country labourers, and be greatly extended. In order to compete with the large foreign supply of willow-rods and basketwork, the cultivation and utilization of osiers must be conducted in the most scientific and business-like way. This it is the province of the English and Irish Boards of Agriculture to teach the people by experiment and expert advice.

I know of no extensive areas in Britain of ash, alder or sweet-chestnut coppice. Mr. Robert Anderson, of Cirencester, states that pure ash underwood in Gloucestershire, 16 years old, was sold

last year for £14 per acre, while as much as 8s. 4d. per square pole, or at the rate of £65 13s. 4d. per acre, was obtained last year for some small clumps of ash underwood, 25 years old, in a woodland of 2,000 acres, near Kettering, in Leicestershire. There can be no doubt that British ash is the finest in the world and that there is a very insufficient supply of this valuable material, for which short rotations in high forests, or long rotations in coppice, are most suitable, as old ash trees seldom afford good timber.

Alder coppice, near Cooper's Hill, attains a height of 45 feet, with poles 2 feet in girth at the base, in 25 years, and such alder poles sell well for clogs, toys, gunpowder manufacture and other purposes. There is, however, very little of it in the country. Alder coppice also grows excellently on wet land, under poplar standards, the high value of which has already been referred to.

Sweet-chestnut coppice used to be grown very successfully for hop-poles in Kent and the adjoining counties. The smaller poles are used for hoopwood. The introduction of wire for the hops to climb on and the large importation of hoopwood from France has rendered these chestnut coppices less profitable. I am, however, still of opinion that good chestnut coppice will prove very remunerative, if rabbits are excluded and the period of rotation is increased. Why should the French grow 25,000 acres of chestnut coppice, near Paris, with large profits, while London, which is a far larger commercial and industrial centre, does not require similar material? No wood from young trees is so durable as that of sweet-chestnut which contains scarcely any sapwood. Mr. J. J. Harle, Lord Ducie's agent, recently stated at Cirencester that sweet-chestnut grown on old red sandstone, when 30 years old, was split into fencing posts and rails and used, in 1885, to fence one and a half miles of plantation. This fencing is now as sound as when it was put down 22 years ago—and some of it is being taken up to fence another plantation.

I believe that osiers, ash, alder and sweet-chestnut coppice will prove remunerative, whenever these species are properly grown in suitable localities throughout the British Isles. The fact that the best kinds of motor-spokes are made of Robinia wood (*Robinia Pseudo-acacia*), points to the fact that robinia coppice, with a long enough rotation to yield spokes, will also be a paying crop.

(b)—*Coppice-with-Standards*.

I believe this to be an ideal form of woodland for *good soils* in the south and west of England and in Ireland, but in order to do justice to it, no inferior underwood should be grown; ash, alder

and sweet-chestnut should be the staple underwood. At the same time, far more standards than is now usual should be reared, and oak, ash, larch and poplar saplings should be planted whenever the underwood is felled. With a rotation of 25 years for the underwood, and a good stock of standards, there should be, on an acre, 1,500 cubic feet (quarter-girth) of standards, 750 feet of which may be felled at each cutting of the underwood, leaving 750 feet standing, which will grow into 1,500 feet in the next 25 years. It is useless trusting to natural regeneration of the standards, and about 100 saplings should be planted at each cutting. Larch grows magnificently as standards over coppice, both in Lord Bathurst's woods at Cirencester, where the larch sells at 1s. 3d. per cubic foot for barge-building, and also in the High Meadows wood belonging to the Crown. Oak, ash and poplar also grow much more rapidly under this system, with free expansion of their crowns and with boles cleared by the underwood, than in high forest. Black walnut—a most valuable tree—should also be grown as standards over coppice, the common walnut being too branchy, but the latter tree can easily be grown to timber size in our beechwoods.

Landowners imagine that if they convert their coppice-with-standards woods into high forest, they will not be encumbered by a mass of unsaleable underwood. This is partly true for conifers, but in broadleaved high forest the mass of immature material from thinnings is fully equal to the yield of similar material from coppice-with-standards. All the private woodlands in this country cannot be converted into coniferous high forests. The better plan is to increase the volume of the standards grown and reduce that of the underwood, growing only valuable species in the latter. Owners of coppice-with-standards are in a much better position than planters of wasteland, who must wait for 30 years at least before they can reap any considerable harvest. There is always something to be sold in the worst coppices, and if a steady improvement in their constituents is carried out at each rotation, there is no doubt that eventually they will yield in Britain £2 net and more per acre.

The only regularly managed English coppice-with-standards with which I am acquainted is the Oxshott Coverts, near Leatherhead, in Surrey—720 acres, on London clay, with a rotation of 14 years for the underwood; inferior species are now being cut out at each felling of the underwood and replaced by ash, chestnut and hazel. The future planting of hazel, may, however, be omitted with advantage. Oak is the only standard at present, its regeneration being

left to nature, with only indifferent results, and the oak standards are cut when quite immature, and, therefore, at no great profit. There is still a considerable area covered with black and white thorn but with standards above the thorns; and about 100 acres, having a soil too stiff for oak standards, produce splendid ash and chestnut underwood. During the last 10 years, the gross-revenue has been £467 from the sale of wood and £125 from the shooting-lease. The revenue per acre has, therefore, been as follows:—

			<i>s.</i>	<i>d.</i>
Sale of timber	..	..	8	2
„ underwood	..	..	4	8
Shooting-lease	..	..	3	6
Total			16	4

When all the thorns have been eradicated and a proper stock of standard and good underwood secured, there is no reason why this revenue should not be 30s. per acre. The necessary expenditure there would consist of:—

			<i>s.</i>	<i>d.</i>
Supervision, say	..	..	3	0 per acre
Planting 5,000 saplings annually				
(7 per acre on 720 acres), say	..	..	0	7 „
Rates, etc.	..	..	4	0 „
Total			7	7 „

leaving a net-revenue of £1 2s. 5d. per acre, which is somewhat less than that obtained in French and Belgian forests of a like character.

(c)—*High Forest.*

The 50,000 acres of the Chiltern Hills beechwoods constitute the best high forest tract in Britain. There, with about 90 years' rotation, gross annual revenues of about £1 per acre are obtained, provided the fellings are not excessive, as they have been in many cases. The expenditure is practically confined to the salary of a woodman and payment of local rates and taxes, as the regeneration is almost entirely natural and costs nothing, while, owing to the absence of rabbits, wire-netting is not, as a rule, required. Fine straight oaks grow here and there among the beech, especially along the borders of the woods, where the oak gets more light than in the interior, and ash trees are not uncommon. As a rule only beech is sold, the oaks and ash being used, from time to time, for

estate purposes, so that their value is not included in the estimated yield of £1 per acre.

Excluding these beechwoods, the only extensive tract of high forest that has been continuously well-managed for a century is that in Lincolnshire, belonging to the Earl of Yarborough. Here, on the Lincolnshire Wolds, above the chalk, on soil somewhat poorer but otherwise similar to that of the Chiltern Hills, 5,000 acres of mixed woods, treated as high forest, are clear-cut with a rotation of 100 years and yield, I believe, a gross annual income of £5,000, or £1 per acre. I cannot say what is the annual expenditure per acre, but there are very wide grass rides, the cost of maintaining which goes to the woodland account. These woods were not originally planted on scientific principles, and artificial planting, to replace the felled timber, is largely resorted to, though there is a good mixture of naturally grown ash in the woods. There are, fortunately, very few rabbits and plenty of foxes, which keep down the latter, but it is nevertheless necessary to have wire-netting round the young plantations—a very expensive item in woodland management. A historical account of timber woods, showing financial results, and done in the same thorough manner as that of the agricultural lands of the Duke of Bedford, would be of very great interest to British foresters.

The Crown woodlands in the Dean Forest, in Alice Holt wood, and in High Meadows wood are now being managed under regular working-plans as high forest, in which oak is to be the principal species. There is also much Scots pine in the Windsor and New Forests, and some oak in the latter, managed systematically as high forest, chiefly under the clear-cutting system, with some natural regeneration. The Scots pine woods when mature yield about £100 per acre, with rotations of from 70 to 80 years but are not yet under any definite working-plan.

The Duke of Bedford is converting his Tavistock oak-coppice woods into oak, beech and silver-fir high forest, with larch nurses as a temporary crop. His Scots pine woods at Woburn are regenerated naturally, and most successfully, by having a belt of mature Scots pine to the west of the area cut annually and by cutting in strips, but though the best Scots pine there sells at 10d. a cubic foot, I have no data of the financial result from these woods, which contain splendid pine trees, equal to any in Europe.

The only other British woods, the financial returns from which are available, or at any rate known to myself, are certain larchwoods.

Data regarding these appeared in the report of the Afforestation Conference held in London last June.

Sir Herbert Lewis supplied data of a Welsh larchwood of 208 acres, which was planted on a stony hillside and felled when 50 years old. The soil was a light sandy loam and not deep. The land is valued at £7 10s. Od. per acre. The thinnings yielded £4,500, and the final crop £14,500—total £19,000, or £91 per acre. The cost of planting, fencing, etc., was £2,000. Dr. Schlich estimates that this wood has paid $5\frac{1}{2}\%$ compound interest on the value of the land and capital expenditure.

Mr. W. B. Havelock gave an instance of a wood of 18 acres, in the North Riding of Yorkshire, where the land is also worth £7 10s. Od. per acre. The cost of planting, fencing, etc., was £8 per acre. Value of thinnings and shooting covered the annual costs of maintenance. The trees were cut when 75 to 80 years old and consisted of:—

Larch ..	..	..	1,328	trees
Scots pine	..	..	262	"
Oak ..	..	..	74	"
Beech	..	..	116	"
Birch ..	..	..	35	"
Spruce	..	..	12	"
Ash ..	..	..	120	"
<hr/>				
Total ..	..	..	1,947	"

or 108 trees per acre. The net-receipts, after deducting the cost of harvesting, selling, etc., were £2,835—equal to £157 10s. Od. per acre. The compound interest on capital of land and planting expenses is 3.56 %.

The great municipalities of Liverpool, Leeds, Manchester, Sheffield and Birmingham are actively engaged in planting the catchment-areas of their waterworks, and this will add considerably to our woodland. Much activity is also being shewn by Scotch landowners in planting wasteland, and the Crown has recently acquired an area of 12,500 acres, near Loch Awe, that is to be planted.

I regret that I have not been able to give more than a few examples of successful economic planting in Britain. We have no proper statistics of the yield of our woodlands, but the time has now come when planting is done more for profit than for sentiment, and a systematic record of results should be kept for every woodland.

10.—FORESTRY INSTRUCTION.

Schools of a higher class for instruction in forestry have been established at the Universities of Oxford, Cambridge, Edinburgh and Bangor, and at the Royal College of Agriculture, at Cirencester. There are schools for woodmen with experimental areas for practical instruction in the Forest of Dean, at the Armstrong College, Newcastle-on-Tyne, and at Avondale, in County Wicklow.

11.—CONCLUDING SUGGESTIONS.

We have had two Parliamentary and Departmental enquiries into the question of forestry in Britain, and a Departmental Committee of the Irish Board of Agriculture has been recently sitting at Dublin with a view to devising some means of saving the remnants of the formerly extensive Irish woodlands and of planting some of the Irish wastelands. It is surely time that the State took up the matter in earnest and gave practical expression to the resolutions of these Committees. A Forestry branch should be attached to each of the British and Irish Agricultural Departments, while another branch should be established to deal with Scotch forestry. Private owners should be encouraged to plant, either by the giving of a bonus on land planted or by the remission of rates and taxes on young growing woods, accompanied by sufficient State supervision to ensure good management. The State should be ready to depute experienced foresters to draw up working-plans of woodlands for private owners, only actual expenditure thus incurred being charged for their services. Careful statistics regarding the nature, conditions and yield of our woodlands should be compiled by the State forestry departments. Above all, an enquiry should be held into grazing rights on our wasteland in Great Britain and Ireland, so that land suitable for forest growth, but unsuitable for grazing, might be separated from that where grazing should be continued. It will probably then be found that much of the so-called grazing land in mountainous districts is of very little value and that such land would be far more profitable under trees. Every year certain areas of this unproductive grazing land suitable for trees should be acquired by the State or by County Councils and planted under the direction of the State Forestry Department.

In this way our existing woodland area would be gradually improved and large areas of wasteland planted, so that some of the

£30,000,000 we expend annually on the purchase of forest produce might be retained in this country and occupation found for people, especially during the winter. The consequent improvement in the health and stamina of those so employed would alone constitute a great national asset. A visit to High Wycombe or Chesham, where extensive neighbouring areas of woodland supply raw material for large factories, would convince the greatest unbeliever of the benefits resulting from a steady supply of wood.

VII.—DAIRY FARMING: FIFTY YEARS AGO AND NOW.

By J. P. Sheldon.

Should I succeed in correctly transferring to paper my recollections which go back to the later "fifties" of the last century, it will be seen that far-reaching and important changes have taken place in dairying. Nevertheless, the process has not yet reached a limit. if, indeed, there be a limit to reach. To differentiate dairying from dairy farming may probably be an advantage for the purposes of this article, although they are, to all intents and purposes, two great halves of one predominant feature in British agriculture. In the one half we have an extensive and elaborate combination of land, crops and animal life, all devoted to the one object of producing milk; in the other a still more complex equipment for converting that milk into cheese or butter. The milk is the gold issuing from the mine; the dairy is the mint in which it is moulded and stamped for circulation.

By dairy farming is meant the cultivation of the soil, the chief object being the production of milk in quantity; and dairying is intended to signify the management and manipulation of the milk so produced. The farm is the domain from which the beneficent natural product, "milk," is primarily obtained; and the dairy is the laboratory where that product is changed into wholly different forms. Dairy Farming, on the one hand, and Dairying on the other, though so closely connected, are differentiated by the natural practices of the one and the artificial processes of the other.

OLD-TIME FARMING.

It must be understood that dairy farming only is dealt with in this article. It is true that Dairy Farming was formerly—and is still in many places—more or less associated with mixed farming.

dairying being, as a rule, the chief object. There were, however, then, as now, dairy farms to be found, mostly on heavy soils unsuitable for sheep, that were essentially cow farms and nothing else, all things else being subsidiary and subordinate thereto. All the broad acres of such farms—many scores, and even many hundreds of acres, here and there in single occupations—and all the manifold processes of cultivation and cropping and harvesting, were to all intents and purposes devoted to keeping the dairy employed. The dual production of cheese and butter in one and the same establishment on any given farm was, however, not encouraged by dealers in cheese. For cheese is not always what it seems to be before you “iron” it; and whilst poor butter proclaims its own delinquencies at once, poor cheese is not so frank and honest for weeks to come, if ever. It was shrewdly suspected that where butter was produced on a cheese farm, there poor cheese might be looked for with success.

To improve and increase the crop-yielding capacity of farms in bygone times, was, apart from the matter of expense, not so easy a process as it is to-day. In point of fact, in the first half of the 19th Century, farms as a rule hungered in vain for extraneous means of improvement, particularly those that enjoyed the distinction of being sound land not needing artificial draining. Wet farms were beginning to receive what they required as a fundamental preliminary improvement, namely, artificial draining, without which all other improvements represent, for the most part, money and labour thrown away. The process of draining wet land was, and is, unavoidably slow, and it is to be regretted that much of this desirable work still remains to be done in this country.

But still, many of the more enlightened landowners and tenants were making wet land dry prior to the middle of the century, and subsequently laying a substantial dressing of lime upon it. This was elementary, no doubt, but it shows that some old-world farmers had the intuition that the draining of wet land was the first thing to do and liming it the second. They were not aware that the chief function of lime was chemical as well as mechanical, inasmuch as it decomposes inert vegetable and mineral matters, preparing them to be food for plants. They knew by experience that draining and liming completely changed the character of wet land and of the herbage it grew; but how the change was brought about they did not clearly see.

For dry land, usually called sound land, because nature drains it as man cannot, and particularly land on carboniferous foundations—the sort of land, in fact, with which I was practically

acquainted from my youth up—my father found that raw bones, crushed to what was called “half-inch bones,” formed the most effective and lasting fertilizer on arable land. His farm, upon which he entered towards the end of the thirties, was a “run-out” farm of over three hundred acres, carrying at the time twenty-five dairy cows and seventy breeding ewes, with young stock in proportion. With the aid of crushed raw bones liberally used, he raised the stock-carrying capacity of that farm from twenty-five to forty-five dairy cows, and from seventy to one hundred and fifty breeding ewes, plus young stock of all sorts and ages, in proportion. Lime he did not use, after the first two or three years, having found how much more effective raw bones promised to be on that sort of land.

Lime is, however, useful in breaking the hidebound sward of soils on limestone formations; but as such land is almost always sufficiently drained by nature, it has little inert vegetable matter lying idle and needing the action of lime. Before the introduction of crushed bones, lime was about the only artificial fertilizer available, and the remains of many ancient lime-kilns, on the carboniferous country side, bear testimony to the extensive use of lime in olden days. The keenness of expanding foreign competition in food-stuffs, since the middle of last century, greatly discouraged the use of lime, chiefly because men wanted quicker returns than lime would give. Land which was drained and limed fifty years ago might with advantage be limed again now, though the effect of the first application has not yet disappeared. All depends on whether a potential profit can be seen in the use of lime to-day. Some men see it, or think they do, and they are probably right,—if only they can afford to wait.

The “raw bones” instance just cited occurred during a period of prosperity which proved too short to admit of the expansion that was hoped for or to establish a new era in British agriculture. It was prematurely curtailed by the rapid growth of imports from foreign countries, which competed, untaxed, in our markets with the home-grown produce of land that was subject to whatever Imperial and Local taxation was thought necessary by the State.

Dairy farming, however, in the fifties, and onward for thirty years, was a paying business for the cheese and butter farms as well as for arable farms, and during that period lime, bones and guano were freely used on grass and arable land alike. The introduction of guano was the first, and the greatest, of the foreign aids to soil-fertility, “The Wizard of the Pacific” being the name given to it in that agricultural classic, “The Chronicles of a Clay Farm,” which was published in 1852.

Lime is the most ancient of what may be called artificial manures, and it formed—with bones and guano—the famous triad of extraneous manures that were so popular in the period to which attention is being called. Each was potent in its way, either in stimulating the growth of special crops or in a lasting improvement of soils. Guano deposits, however, became more or less exhausted, bones became dear to buy, and lime lost favour because of the heavy labour attending its application. So it has since come to pass that concentrated chemical manures, which are much lighter in transportation, have come greatly into favour in more recent times.

Preparations made for carrying live stock through winter were, almost everywhere, wholly connected with crops grown on the farm, which necessarily had to be self-supporting with respect to food for animals. Foreign feeding-stuffs were practically unknown. They were at best a novelty which was received with mixed feelings of curiosity and suspicion, though it may be said that linseed cake had lived down suspicion and had become popular. But little was known of cotton-seed cake in the early fifties, and nothing at all of the thousand and one kinds of food for cattle with which we have become familiar in recent times, and which we should find difficulty in doing without to-day.

The self-supporting farms of fifty years ago which maintained their old fertility, were, so far as we can tell, obviously farms so excellent to begin with that the self-supporting system sufficed. The number of such farms was relatively small, and in the aggregate such land forms but a small proportion of the surface of this country, or of any other. But there are vast areas of land in dairy farming districts which lose fertility and can never be self-supporting. This process of depletion has been going on for centuries, and is still going on to a deplorable extent. Unless farmers are making money beyond all fixed charges, it is abundantly evident that they cannot be expected to do much in the way of improving their land. A surplus is wanted, for it is by means of this that men are encouraged to increase the soil's fertility.

OLD-WORLD PRACTICES.

Primitive conditions governed the farm as well as the dairy fifty years ago. There was no urban demand for country milk in those days, and railway "milk churns" had not yet come into use. The milk produced on farms was made into cheese or butter where the cows yielded it—that is to say, at the home dairies on the farms—and such milk was manipulated fifty years ago, for the

most part, in a way which to-day we should describe as primitive and unscientific. In other words, practices were in vogue which, with few if any improvements, had been common aforetime to many generations of dairymaids.

In cheesemaking, as in buttermaking, the appliances used were simple and useful in their way and generally of local construction. Cheese tubs were in most cases actually tubs, not kettles, and made of good English oak. Amongst the equipments of an old dairy was a big brass cheese kettle, which, poised on a bench outside when its functions for the day were ended, and polished until it dazzled the eye, was the pride of the establishment. Across the kettle, when in work, was placed a short ladder-platform, after the coagulum had been "broken down" and, gathered into a strong cloth, had been placed in a cheese vat. On the ladder the vat was laid, and the curd was left for a few minutes to drain. At either end of the ladder was a vertical shaft, wormed to act as a screw for pressure: and a board stretching between them was operated on at either end alternately by a turn of the screw. Sometimes the ladder had neither shafts nor screws, and in such a case weights were poised on the board that lay on the curd in its cloth, to expedite the separation of curd and whey. I have many a time seen a dairymaid upon the board—a live weight instead of a dead one. She had to climb to her somewhat perilous altitude and balance herself as best she could. Various other mechanical devices equally primitive and inconvenient, all of them well within the capacity of the village carpenter to design and construct, were to be found half a century ago.

The chief object in those days was to press the whey out of the curd as quickly as possible and to form the curd into a compact cheese under heavy pressure from a dead weight. This dead weight was usually a block of freestone, half a ton or more in weight. Raised and lowered by a powerful screw passing through a strong oak beam, which formed the head of the frame-work of the press, the great stone was lowered down upon the curd in the vat; this was placed upon the sill which formed the basis, or foundation, of the press. The whole structure was ponderous and inconvenient, but withal effective for the work it was designed to do. By this means the young curd was formed into a compact, well-flattened, well-rounded cheese. Again and again the block of stone was raised to enable the dairymaid to pare off raw edges of curd, to see that pressure was moulding an even-sided cheese, and to "dry-cloth" the young product. Each morning in the dairy the earliest work was to "dry-cloth" again all the

cheeses put in the press the day before and to salt them externally, the salt being well rubbed in. This was the old Derbyshire system of salting on the outside. The cheeses were kept under pressure a day or two longer, if there was room for them, and then taken to the ripening room upstairs. And so the round went on, day after day, throughout the season, which usually opened in April and closed in October or November. It was one unvarying routine the whole time, and all the more dull and monotonous because no one realised then, as we do now, that milk is a complex fluid, subject to varying conditions, and needing constant care always, but especially in the summer months when the finest quality of cheese is wont to be made.

Various inventions for cheesemaking were brought out in those far-off days, inventions which were a combination of tub and press, with special arrangements for getting the whey out of the curd. This process was the *summum bonum* of the whole thing, and chemical influences were not even dreamt of. "Get the whey out of the curd, and the curd formed into cheese," comprised the formula in all essentials, as it was then known. To this end, lever presses were introduced in the fifties, or shortly before, and were useful to many. Yet some persons said they spoiled the cheese.

MILK.

The first care of every competent dairymaid was then, as now, to have the dairy and all its equipment kept immaculately clean, and to make sure that no kind of contamination—solid, liquid, or atmospheric—was allowed to have free access to the milk, so far as it could be avoided. Some dairymaids in past times, indeed—odd as it may seem to say so—were really too vigorous in their crusade against what they understood to be contamination of milk.

Milk, in point of fact, must be contaminated—if this word may be employed for the moment—by the bacillus which produces lactic acid, if dairy work is to be successfully carried on. Old-world dairymaids regarded this as contamination, because it soured the milk. Perfectly fresh, clean milk cannot be depended on to make the best of cheese, or of butter, unless it becomes impregnated, either naturally or artificially, with the one indispensable bacterium. It was from the atmosphere in the dairy that this impregnation was generally obtained in dairies of the ancient type, save in such cases as Cheddar cheese, into which it was introduced with acid whey, in the process of manufacture.

It must be borne in mind, however, that indiscriminate contamination of milk can lead only to disaster in the dairy. And

also that there is only one special and distinct medium of contamination whose influence, intelligently controlled, leads to success. The dairymaids of old fought against every kind of contamination of milk, because they deemed all of them to be mischievous. And they were right, up to a certain point; and it was at this point that the Cheddar cheese makers of old—by great good luck—found the one thing needful, though they knew not how or why at the time.

In the early eighties, somewhat over a quarter of a century ago, it fell to my lot to spend some time amongst the farmers in one of the best grass-land districts of England—in the Fylde country of Lancashire, lying to the north of the Ribble. My errand was to visit certain dairy farms where, respectively, good, bad and indifferent cheese was then being made, and to watch the process of making, in order to ascertain, if I could, the reasons why good cheese was being made in one dairy and bad cheese in another.

At one place I found the farmer himself, sitting comfortably enough by the side of the cheese tub, making cheese in the ordinary living room, surrounded by the varied impedimenta appertaining to farm kitchens. Although that kitchen would hardly now be regarded as an ideal place for cheesemaking, the fact remains that the cheese produced there was known as amongst the very best to be found in that excellent cheese-making district. I saw the process through, and it was simplicity in a nut-shell, so to speak. I sampled several of the ripening cheeses upstairs, and found them extremely good.

But a few miles away from the farm I have just referred to was another one that, so far as success in the dairy went, was the very reverse of this. There were no external reasons to account for the difference: the land was similar in character and the surroundings were more promising in this case than in the other, for it was an isolated farmstead, whereas the other was situated in the midst of a considerable village. The cheese was made in a dairy and not in the kitchen, everything in the dairy being fastidiously clean, whilst the walls were periodically lime-washed "to sweeten them." The various equipments were neat and tidy to a degree, bearing obvious testimony to the conscientious devotion of the two daughters of the farmer.

Yet the cheese made in that dairy, under conditions of care, anxiety, cleanliness and order that could hardly be surpassed and would seldom be equalled or even approached in the dairy of an ordinary Lancashire farm, was distressingly bad. At first I thought there was something amiss with the drains, or the cows,

or the grass. But when I had asked certain questions as to the treatment of the milk, and also of the curd before it was vatted for the press, I thought I could lay my finger on the weak spot. "Yes," said the cheesemakers, "We do all we can to keep the evening's milk cool and fresh through the night, and then we make it into cheese along with the morning's milk." When I remarked that they probably kept the milk too fresh and sweet, they were startled, and looked at me with most enquiring eyes. Said I, "You keep your milk too cool through the night: it has no chance to mellow and ripen." They looked incredulous, for naturally they could not at once, on the dictum of a stranger, realise that all their constant, anxious care and toil were wrongly directed. I explained that quite fresh milk, and curd from which incipient acidity had been carefully excluded, could not be depended on to produce sound, mellow, true-flavoured cheese.

In 1880, Mr. Ballantine, who was called "the Cheese King of Canada," and whose guest I was, showed me over several of his cheese factories in Western Ontario, and explained the whole thing as we went along. It was then near the end of September, and the nights were becoming cold, so that there was no difficulty in keeping milk free from sourness through the night. I asked my host if he found the cold nights of the fall to interfere with the cheesemaking? "We used to do," he replied, "but now we have no difficulty in securing cheese in the fall as mellow and clean-flavoured as that made in the summer. Time back there was always a difficulty in getting fall cheese to ripen at all as it ought to do. I thought out the matter a long time, and arrived at the conclusion that the mischief was most likely owing to the evening's milk becoming so deadly cold during the night. I, therefore, tried the experiment of warming up the evening's milk, first thing next morning, and keeping it warm say at about 80° F., for three or four hours, before making it up into cheese along with the morning's milk. During this interval the evening's milk was ripened, the temperature being favourable for ripening, and we have not had any trouble since then with September and October milk."

Bearing in mind this Canadian lesson, I said to the two young cheesemakers who were in difficulties:—

"Firstly, Do not make your evening's milk too cold for keeping through the night; and,

"Secondly, Keep about 3 lbs. of curd to mix with about nine times its weight of fresh curd in forming a cheese on each succeeding day.

It was many years before I heard anything further about them, but, when the annual Conference of the British Dairy Farmers' Association was held at Preston, I saw the old farmer and one of the two daughters. They informed me they had followed my advice, and that the result had been more than satisfactory; on various occasions their cheese had won prizes at shows in the county!

This improvement was brought about by a most simple innovation—the use of acid curd—in which, however, an all-important principle lay embedded, a principle, too, which was destined to furnish many striking manifestations before the century came to an end. How little we then realised that what we did not know on the subject was greater by far than what we knew, and that much would be revealed within a comparatively short space of time.

Looking back to a period in which acid whey and curd, and buttermilk—the two first in cheesemaking, and the third in butter-making—were employed here and there, but whose nature and properties were not in the least understood by those who used them, a very great change can be seen, though it can only be adequately realized by those who have watched and studied the progress of science in dairy work during—more particularly—the last thirty-five or forty years.

During that time, not one only but several definite sciences may be said to have been enlisted in the service of the dairy, greatly to its benefit, clearing up the many mysteries which had so far lain hidden in milk.

THE OLD GIVES PLACE TO THE NEW.

But the end of it all is not yet. The process of transformation which has been going on since 1870, in respect to the milk supply of our great urban communities, has fundamentally modified various habits, and rules and customs, which had, aforesaid, a changeless record of centuries to their credit in the dairy world.

It is obvious to those who knew the 'fifties and 'sixties of the bygone century that conditions are greatly altered in almost every dairying district in the country. Cheesemaking is now conducted under greatly simplified and enlightened rules, for which we are indebted to scientific men—chemists, microscopists, bacteriologists, and others—whose tireless quest has revealed many interesting and important secrets of nature in connection with milk. Their quest is not yet ended, and will not even be ended when they have discovered a simple and wholly innocuous prophylactic against incipient decomposition of milk,—something to preserve milk unchanged for days, if need be, as fresh as if just from the udder of the cow.

THE MILK TRADE.

When the second half of the Nineteenth Century dawned upon us there was no trade, townwards, in railway-borne country milk. There were no railways to bear it either, save a few main lines which had not yet built the inevitable "feeders," and no railway service existed that was calculated to promote a railway milk trade. Nor were there any number of dairy farmers in the shires who ever thought of sending away their milk by rail; they looked on the existing cheese tub as a permanent fixture. But there were urban and suburban cowsheds in London and other large towns, and, as there was then no wholesome dread of Sanitary Inspectors, and the cry of bovine tuberculosis had not yet been heard, the milk produced therein was made to serve for the people.

All the same, however, there was a growing discontent with the state of affairs then current in the great cities and towns. Much of the milk produced in urban cowsheds was contaminated by contact with bacteria-laden air on the spot. This was not understood at the time, and was clearly unavoidable in subterranean cowsheds. But the milk became "ropy," or "stringy," drawing out in long threads, like fine macaroni. Therefore, there was growing discontent with the prevalent state of things, and even urban cow-keepers began to recognise as an anomaly the keeping of cows in cellars, bringing their food in from the country, and taking the manure out again. The idea took root that it would be more suitable if the cows could be domiciled in the country, where, in any case, their food had to be raised, and if the milk could be sent to the towns from the midst of the clean air of the shires. It is amazing to us now to reflect how crude and nebulous ideas were on sanitary questions, no further back than the seventies. But to the relatively few who thought about the matter, it became more and more obvious that the need of towns' folk was not for cellars in their midst full of cows, but for milk from country-fed cows, clean and fresh from hedge or wall-encircled pastures.

The suburban cowshed system was extended to certain districts where railway managers could be found who were prepared to cultivate a daily milk-traffic at freight-rates reasonably low. The railway authorities were not oblivious of the possibilities and profits of such a new traffic, though none of them could ever have supposed that its development would be so vast as it has already turned out to be. It could hardly have occurred to anyone that the demands of the milk trade would find response, in forty years' time, from every cow-keeping parish in England lying within

practicable distance from a railway station. But for railways it is emphatically clear that we should never have had a milk trade as we have it now, and as it will be in ten years' time. The great change which has taken place in the milk trade during the last half century is, perhaps, the most remarkable phenomenon which can be found in the history of agriculture.

It is in the milk trade that we see the real cause of, perhaps the most significant, if not the most important, re-arrangement to be found in the whole range of British agriculture. Nothing else—not even the decadent industry of wheat-growing—provides us with a transformation at once so far-reaching, so interesting, and so complex. It is something quite extraordinary, this many-featured milk trade, in comparison with what it has displaced and disestablished. And yet this great change from one state of affairs to another has all been developed within the last fifty years, and is still being extended and expanded.

Seeing how immensely popular milk has become with the masses of our people in urban districts, it is rightly deemed a necessary condition that every care shall be taken to keep the supply up to a high standard in respect to quality, cleanliness, freshness and so forth. The consumption has greatly increased since country milk became available, and while this increase is very great in the aggregate, it has not come by leaps and bounds but in a regular persistent way which tells for permanence. We welcome the increasing vigilance of the men who are set to watch over the railway milk trade, for their energy is, for the most part, well-directed. This vigilance must be kept up to the mark, in the interests of all honest milk-farmers as well as in that of the great public which consumes the milk. The trade, indeed, demands protection against any rogues who are in it.

It is difficult now to realise how little, fifty years ago, those who were financially interested in milk knew of its nature, composition and properties. They could turn it into money, after they had made it into cheese or butter; it was a rent-yielding commodity, when it had passed through certain processes in the dairy; but as to its elaboration in the milk glands of the cow, and its composition, they knew little and cared less.

But the demand for country milk by urban populations has gone on increasing constantly for thirty-five years, and rapidly for the last ten or twelve, until now the trade in the aggregate is colossal in magnitude. To the dairy farmers of England it is a trade of vital importance, though it has not made dairy farming the remunerative business it was in the 'seventies. Still the milk trade

is the "sheet-anchor" of English farming to-day, and as such it has compelled all farmers of intelligence to make themselves familiar with, at all events, part of what science has revealed concerning the qualities and ingredients of milk. The increasing alertness in the administration of the Act, which defines what is known as the minimum "standard of quality" required of milk that is offered for sale to the public, has sharpened by dread of the Courts the perceptive faculties of many easy-going farmers.

Milk, indeed, being, perhaps, the most delicate and complex fluid in nature, is not to be read like an open book, clearly printed, even by those who have been taught the alphabet. And the ascertainment of the component parts of milk does not end the study, for there are the outside influences to which so susceptible a fluid is ever subject. Our present knowledge of milk is sufficient to convince some of us that what we knew about it fifty years ago was little better than nothing at all, as it was apt to lead us into a complaisant feeling of security when really no such security existed.

Milk was merely known as a white, opaque fluid, liable to turn sour in hot weather and to play various pranks. Souring of milk was attributed to the weather, and especially to "thunderous weather," and a "muggy" atmosphere. There was no suspicion that the souring was really a fermentation, initiated and developed by bacteria so minute that thousands of them could be packed within the limits of an inch.

THE LACTIC ACID BACILLUS.

Modern cheesemakers, profiting by the work of many scientific investigators during fifty years or more, are now certainly in a position to know the nature and functions of the bacterium which is so useful a servant in the dairy, and was formerly so tyrannical a master. In point of fact it is a tyrannical master still in dairies which are unintelligently managed; of which instances are to be found, no doubt, in most out-of-the-way dairying districts, though they are becoming curiosities on account of rarity. They would have been more numerous for awhile longer, were it not that the modern milk-trade came along conveniently to enable many unsuccessful cheesemakers to escape from the sporadic tyranny of the infinitely little.

There are various ways of employing "the infinitely little," which is now known and understood to play so leading a part in the processes of the dairy. It has been employed for centuries,

in one way or another, though for the great part unintentionally and unintelligently, ever since milk was manipulated into cheese and butter. We may venture to say, indeed, that no dairymaid of old could entirely avoid employing it to some extent or other, and that in all cases of a normal character it simply set to work on its own account, in a purely natural sort of way, as the initial stage of fermentation incidental to milk under ordinary conditions.

This immensely useful, and even indispensable, servant in the dairy is the lactic acid ferment, which comes from the action of the lactic acid bacillus or bacterium—the *bacillus acidi lactici* of our scientific experts in dairy matters—on the lactose, or sugar of milk. It is the active principle in the sour-whey process of the old time Cheddar makers and in the modified method employed by the modern ones ; and it lies at the foundation of various other ways of cheesemaking—particularly of the Stilton—whilst it certainly permeates more or less the superstructure of other systems, both soft and hard, including cream cheese. We may, in point of fact, suppose that it is fundamental to all methods of cheesemaking, and—to a smaller extent—of all buttermaking too, because the ferment-producing bacterium takes possession of the milk when it leaves the cow's udder, if not, indeed, before, as is maintained in some quarters, though this is not fully established. In any case, however, the bacterium has been, and is, prevalent in the atmosphere of all well-regulated dairies, ancient or modern.

In the end the whole sum and substance of the great reconstruction in cheesemaking—and indeed in buttermaking too—resolves itself into employing “the infinitely little”—employing it with system based on science—to do the work of hands and brains ; it is, in short, the using intelligently one of Nature's silent but resistless and remorseless organisms.

There are bacteria of various kinds, some of which are useful, others neutral and harmless, and others dangerous and, under certain conditions, deadly, so science proceeds to isolate the bacillus which is desirable for the dairy and to cultivate it in a pure state. It is this pure culture of the fermentive bacterium, known to science as the lactic acid bacillus which has greatly controlled the process of cheesemaking and given the expert maker a measure of power undreamt of even a quarter of a century ago, save in the brain of the early investigators. This culture is introduced into the milk and the rest is left to the action of these microscopic organisms. The preparation is technically known as “a starter,” inasmuch as it starts coagulation in the milk, and it is now obtainable at Dairy Schools and elsewhere.

No other triumph of science in the dairy has been more interesting or more conspicuously successful than that of microscopically identifying the lactic acid bacterium in milk, followed by isolating it from all other kinds, and cultivating it on food made suitable with gelatine. None, indeed, has gone so straight to the root of the whole business of making cheese and butter, or was so capable of creating a transformation in the making of it.

It is really an astounding feat in science to identify and isolate, and afterwards cultivate, a bacterium so minute that a vast number, placed side by side, keep within the limits of an inch in length. Our familiarity with it, however, lessens the wonder with which its first announcement was received in the world of practical dairying. The "pure culture" of the lactic acid bacillus places in the hands of all cheesemakers a power that can now be used with effect more reliable than was the case with the acid whey of a bygone generation. This is so because, the nature of the ferment being now well understood, a pure culture of the bacillus can be employed in any desired strength and at any moment.

It were well if the lactic bacillus had no opponents to dispute its rule in the dairy. But there are others, too, in many dairies—perhaps in all—permeating the atmosphere and resting on the walls and floors, and in the crevices. These are ready to take possession of the milk brought into the dairy, because they find it a congenial substance in which to work their depredations. It is a race, sometimes, as we are told, between the different kinds of bacteria as to which shall first and most effectively annex the milk. Some of these are harmless enough; all of them are infinitely little, discoverable only by means of a powerful microscope.

Means had been discovered—long before science had isolated and identified these different bacilli—of giving an advantage to the lactic acid ferment, in regard to the making of cheese and butter too. But there was no scientific explanation of the character of the work performed by this most useful and even indispensable bacterium. In connection with the subject, I will relate an instance of a piece of adventitious fortune in doing at a venture the right thing at the right time, though in sheer uncertainty and with no small amount of misgiving.

AN UNSCIENTIFIC EXPERIMENT.

On a large mixed farm, called Low Fields, situated on the southern slopes of the great hill-and-dale country known as "The Peak of Derbyshire," a herd of some forty-five dairy cows was kept

for cheesemaking, half a century ago. My father was the tenant of the farm, and my mother superintended the dairy work, doing no small share of it herself. The cheese was the ordinary type of Derbyshire cheese, made on the "sweet-curd" system.

One day a few pounds of curd in a pan were inadvertently mislaid and not discovered until the four cheeses of the day had been got under press. Told of this small mishap, my father said:—"Well, let us have a little experiment; keep the truant curd till to-morrow, put it into one of the new cheeses, well mixed up with the sweet curd, and mark that cheese by pressing a penny on the flat side of it." This was accordingly done, and the cheese took its chance with the rest in the ripening room.

Some two or three months afterwards that cheese was found to be the mellowest, cleanest-flavoured, and altogether the best cheese of the season. Subsequently all the cheese in that dairy was made on the *acid curd*—not the sweet curd—system, and the entire season's make of one of those years, kept over Christmas, commanded 87s. per cwt.—some six to seven tons of it in one lot. Aforetime the cheese made on that farm had been of only second-rate quality, but afterwards it took rank in the front line. The "infinitely little"—the lactic acid bacterium—developed in the curd held over from day to day had saved the situation.

This was merely an adventitious duplication of what had, no doubt, happened elsewhere before, and did so subsequently. But it embodied and demonstrated a principle in cheesemaking which was not at the time understood at all, in any scientific sense. It was the bringing forward at the right time of the indispensable ferment. It was the acid whey of the early Cheddar process; it was the exposure of the curd for a day in the Stilton process; it was the night-in-an-oven in the Cheshire; it was found to produce the finest cheese in the Fylde of Lancashire.

In the immemorial sweet-curd system of Derbyshire, the bacillus was all along afforded an unintentional chance, the young cheeses remaining unsalted for one or two days, and then salted only on the outside. Salting in the curd will not serve a good end, unless the curd has been previously acidified in one way or another. The Derbyshire makers knew this by intuition, centuries ago; but they had no monopoly therein. Yet the sweet-curd system afforded a chance which, at the best, was uncertain of effect: everything depended on the amount of initial progress made by the ferment in the curd before the curd was got under press, and this in its turn had previously depended on the prevalence of lactic acid bacteria in the dairy, for the most part, and on the temperature of the air

to make them active. But all these matters were a more or less inscrutable problem to the dairyman of fifty years ago, and it remained for science to throw light upon the subject and explain what the facts actually were.

CONCLUSION.

It will be seen that very considerable changes have been made in the usages and practices of dairying, in the last fifty years. Greater changes, indeed, than have occurred in the aggregate in all previous half centuries put together. The most remarkable amongst them, and the greatest, is the wide-spread change from home-dairying to milk-selling. This is amply demonstrated by the growth of the trade in country milk. The next in order of notability is the isolation and cultivation of the lactic acid bacillus and its use as a "starter" in the making of cheese and butter.

Various other modifications there are, the more important of which may be regarded as responses to the demands of the ever-growing milk trade. The altered and extended period of parturition for dairy cows may be noted. Fifty years ago it was almost wholly confined to the spring months ; now it is spread over the whole year, in varying degree. Another development, collateral with the first-named, and of corresponding importance, is the enormously increased use of purchased feeding-stuffs on dairy farms.

In the department of dairy equipment the most striking invention is the cream separator. No longer ago than 1877, the separator, now so perfect an implement, was in the embryonic stage. I saw the germ of it at the International Dairy Show, in Hamburg, in that year. The machine then consisted of two glass tubes attached to the spokes of an 18in. wheel, which—actuated by another wheel to which a handle was fixed—was rotated at a high speed. In a few minutes' time the heavier portion of the milk—the so-called skim milk—was found at the outer ends of the tubes, the cream being at the inner end, evidently separated from, though still in contact with, each other.

These changes of practice are still in a state of transition—expanding, developing, improving. What they will amount to in another fifty years, if the pace should be maintained, time alone can reveal.

VIII.—THE INTERNATIONAL DAIRY CONGRESS.

By Granville E. Lloyd Baker.

The third of these Congresses was opened on Monday, September 16th, 1907, at Schevening, close to The Hague. The great rooms at the Kursaal and Palace Hotel were placed at the service of the Congress, and the people and Government of Holland did everything in their power to ensure the success of the gathering and to make it pleasant as well as instructive to the visitors. The President, Dr. Wijsman, opened the Congress in the presence of H.R.H. Prince Henry of the Netherlands and several of the Ministers of State.

There were present also Baron Peers de Nieirwberg, President of the Dairy Federation of Belgium, representatives of most of the Governments of Europe, and the following delegates from England, viz. :—Sir Edward Strachey, Bart., M.P. ; Mr. Balleine (Board of Agriculture), Viscount Ikerrin and Mr. Wilson (Department of Agriculture, Ireland), Mr. Lloyd Baker (Chairman of the British Committee), Drs. Collingridge, Dudfield and Stott ; Messrs. Anderson, Barham, Clement, Crowther, McCaig, Douglas, Easton, Giles, Godman (Col.), Golding, Graham, Gray, Hinton, Jacob, Kirby, F. J. Lloyd, A. H. H. Matthews, Monckton (Col.). Major Norton (South Australia), Percival, Preedy (New South Wales), Reeves and Hooper (New Zealand), A. Robinson, T. Robinson, Ruddick (Canada), Simmons, Herbert-Smith, Speir, Shelmerdine, Taverner (Victoria), Treplin (Secretary to the British Committee), Turner, and Walker.

Discussions were held in the different sections, the most eagerly debated question being that relating to the prevention of the adulteration of Butter. Opinions had changed since the Congress at Paris in 1905, when it was declared necessary to insist on the addition of "Substances revelatrices" to margarine. It was now agreed that so many new imitations of butter, from nuts or fruit, had been introduced that margarine no longer played an important part. Accordingly the following resolution was passed :—"That the Congress is of opinion that the countries represented at the Congress must prohibit the importation :—1st, Of all butter coming from those countries which have not rendered it obligatory to add ear-marking substances to all fats that could be mixed with butter ; or which have not adopted an efficient system of control in order to guarantee the purity of butter. 2nd, Of all butter not bearing a guarantee mark and coming from countries which have an efficient system of control to guarantee the purity of the butter."

Several other resolutions were also passed urging that measures should be taken by each Government to ensure the purity of milk wherever butter or cheese was made.

In the 2nd Section of Hygiene, there was much difference of opinion as to the desirability of pasteurising or sterilising milk. It was considered that, where the origin of the milk was known to be good, it was unnecessary and perhaps undesirable to sterilise it, but that where this was not known, it was better to sterilise it, especially if it was to be used for infants.

The most important discussion here was on Tuberculosis. All agreed that the authorities of each Government should take measures to combat Tuberculosis by the methods of Dr. Bang or Dr. Ostertag, and that animals clinically affected by Tuberculosis should be eliminated from breeding herds even though inoculation might have been successful.

Some authorities declared that Tuberculosis could not be conveyed to the human being from the cow ; at any rate not unless the udder was affected. As, however, a cow affected in any part with Tuberculosis cannot be in a healthy condition, it is unlikely that the milk, though not perhaps infectious, will be really wholesome. Improvements in the housing of cattle were recommended, especially the raised floors of the Dutch system, and regular veterinary inspection.

In the 3rd Section "Industry," Ferments were the chief subject of interest. Pure ferment cultures were declared to be essential for butter-making ; and it was thought that these should be prepared in the laboratory under the stringent rules of the bacteriological expert.

For cheese factories, pasteurisation and the use of pure cultures were also recommended.

The foregoing brief particulars will serve to show the trend of the resolutions which were signed by Dr. Wijsman (Chairman), Dr. Swaving (Secretary General), and, on behalf of the permanent Committee of the International Dairy Federation, by Baron Peers (Chairman) and Mr. L. Gedoelst (Secretary General).

A splendid International exhibition of Agriculture was held close to The Hague, which was opened by Her Majesty the Queen of the Netherlands, who has always taken the warmest interest in Agriculture. Besides a grand show of horses there was a most interesting exhibition illustrating Nature Study. Specimens of timber of all sorts and in all stages were also exhibited and the effect of various manures upon plants and pastures and also of various blights or injuries were shown. Owing to foot and mouth disease no cattle were exhibited.

There was a dairy tent in which were cheese and butter from various parts of Europe. Several Cheddar cheeses were sent from Lord Portman's estate and a silver and a bronze medal were awarded to them. The Gloucester Dairy School also gained a bronze medal for a collection of cheeses, and the same honour was awarded to a Gloucestershire farmer, Mr. George Prout, for a fine double Gloucester cheese.

Lavish hospitality was dispensed both by private individuals and by the Government, many luncheons and banquets being given; an expedition on the Scheldt, by which the great extent of Rotterdam and its shipping could be seen, was also included in the visitors' programme.

After the close of the Congress, expeditions were likewise organised to various large farms and factories and to the control stations for ensuring the purity of butter.

The following notification, which should be noted by the readers of this report, has been issued :—

“Persons interested in the dairy industry can at any time be enrolled as members of the 3rd Congress by sending their name and address with a subscription of 10 francs (8s.), to Dr. Swaving, 88 Lange Voorhout, The Hague, signifying the language in which they wish to receive the report. This gives them the right to all publications, reports, illustrated programme, resolutions, etc.”

In view of the mass of useful and interesting information supplied, it is hoped that many of the Journal readers will be disposed to forward the reasonable amount referred to, which is all the expense involved.

IX.—ANNUAL REPORT UPON THE SOCIETY'S GENERAL OPERATIONS.

By Thos. F. Plowman, Secretary and Editor.

The accompanying Report, having been received and adopted at a meeting of the Council held on June 6th, 1907, was submitted to the Annual General Meeting of Members held on the following day in the Showyard at Newport, and, on the motion of Viscount Tredegar, seconded by Mr. C. L. F. Edwards, was approved and ordered to be printed in the Society's Annual Journal :—

“The Council, in presenting their Annual Report, congratulate the members upon meeting once more, after an interval of nearly

twenty years, at Newport, a borough whose growth in population and importance, since the Society's last visit, has been very marked. The cordiality with which the Society was received by the town and district in 1888 has been repeated in 1907, and the Council gratefully acknowledge the heartiness and sincerity which has characterised the welcome upon the present occasion. To the Local Committee the Society has been especially indebted for the energy and enthusiasm with which they have promoted the success of the Show.

"The present Meeting is especially noteworthy from the fact that the Heir Apparent to the Throne was graciously pleased to accept the Presidency of the Society for the year and attended the Show in that capacity.

"The exhibition is a very large one, and a comparison of the number of entries with that when the Society last visited Newport is an indication of the growth of the Society in the interval. In 1888 the entries of Live Stock and Produce numbered 1,376; in 1907 they are 1,752. Then Implements and Machinery occupied 6,579 feet run of shedding—now they require 6,962 feet run; whilst the open space set apart for larger agricultural exhibits has had to be increased from 15,795 in 1888 to 31,771 square feet in 1907. These figures are the more remarkable from the fact that in the Live Stock classes the Society has in recent years limited the number of entries an exhibitor can make in one class, and has also adopted a more restrictive policy than formerly with respect to the nature of the exhibits in the Implement section of the Show.

"There has been more than a corresponding increase in the number of entries in the Dairying and other competitions, which now total up to 377 as against 109 in 1888.

"The interest taken in the Nature Study Exhibitions previously held by the Society, and the general consensus of opinion as to their usefulness, induced the Council to continue the series at Newport. The exhibition was confined to educational bodies in South Wales and the adjoining counties, and this has resulted in the gathering together of a very interesting and instructive collection.

"In view of the importance of Forestry to the country at large, and of the national benefits likely to accrue from systematic investigation of matters pertaining to it, the Council last year determined to invite the co-operation of corporate bodies and private landowners in carrying out an exhibition illustrative of the subject. The success which attended this afforded every encouragement to repeat the exhibition this year, and the favourable reception given to the proposal by those especially interested has

enabled the Council to add what, they believe, will be found a very interesting feature to the other attractions of the Show.

"The Society's sphere of work, apart from the Show, has been similarly enlarged, especially in the direction of practical and scientific research.

"Experiments with reference to the improvement of grass land, and others for the purpose of demonstrating the effects of lime upon certain soils, are in progress, and the Council are also conducting, in conjunction with the Board of Agriculture, an experiment for ascertaining the influence of various manures upon the production of mutton.

"The Council have made a further grant of £100 towards the National Fruit and Cider Institute, the establishment of which was due to the practical and scientific research work initiated and conducted for some years, conjointly by the Society and the Board of Agriculture, at Butleigh, with the generous aid of Mr. R. Neville Grenville. Experimental and research work is being actively carried on at the Institute, which there is every reason to believe is of essential service to those engaged in cidermaking and fruit-growing. An arrangement has been made under which members of the Society can obtain, free of charge, from the Institute, analyses of cider-apples and perry-pears.

"The Council have, in response to the requests of several public bodies, nominated representatives of the Society to act upon them. and among the gentlemen so appointed during the past year have been Mr. N. Story-Maskelyne upon the Wilts County Agricultural Education Committee and also upon the governing body of Dauntsey School and Almshouses; Mr. J. D. Allen, upon the Somerset County Agricultural Instruction Committee; Mr. G. E. Lloyd Baker, upon the British Committee in connection with the International Dairy Congress at the Hague; Major C. D. Sherston, as a member of a Conference convened by the President of the Board of Agriculture and Fisheries upon the subject of horse breeding; Sir C. T. D. Acland, Mr. R. Neville-Grenville and Mr. H. B. Napier as members of a deputation to the President of the Board of Agriculture upon the subject of cider; and Sir C. T. D. Acland as a witness to give evidence on behalf of the Society, before a Departmental Committee appointed by the Board of Agriculture to enquire as to the provision made for affording scientific and technical instruction in agriculture in England and Wales.

"The Council regret that during the past year death has deprived the Society of several old and valued supporters and workers, among them being Mr. G. H. Morrell and Mr. A. Gibbs, both of whom were Vice-Presidents.

" Among the divisional representatives of the Council no ordinary loss has been sustained by the death of Mr. F. G. Farwell, who, as a Steward of Cider and of Science and Art, had rendered most valuable service for some years past. His devotion to the Society's interests was accompanied by a geniality and kindliness which attracted the affectionate regard of all associated with him. The same may be equally said of Mr. T. Dyke, who passed away very shortly afterwards, and who as a Steward of Finance brought to bear upon the Society's work a business capacity and a ripe judgment that were very helpful.

" Following upon these came the death of Mr. A. C. Skinner, who had been long and honourably identified with the Society both as a worker and an exhibitor, and whose knowledge and experience as a successful stock-breeder were constantly exercised for the benefit of Agriculture.

" The ranks of the Council have, still more recently, been thinned by the sudden death of Captain W. J. C. Boteler, for many years a Steward of the Yard and one of the Society's most zealous and active adherents. He will long be held in grateful remembrance for his many estimable qualities. By his kindly courtesy on all occasions he won the esteem and regard of Members and exhibitors alike, and was an embodiment of the Society's best traditions. In recognition of his services, so long and cheerfully rendered, the Council on April 30 last unanimously resolved to recommend his election by this Annual General Meeting of Members as a Vice-President of the Society, and the deep regret they feel that death has frustrated their intention will, the Council are assured, be shared by the Members generally.

" Three of the Council vacancies thus created have been filled up by the election of Mr. E. W. Farwell, Mr. J. C. Hurle and Mr. A. J. Smith.

" Among its permanent officials the Council has had to deplore the loss by death of its Veterinary Inspector (Sir G. T. Brown, C.B.), who was appointed to the office so far back as 1864, and whose discharge of the duties was marked by the same zeal and ability as characterised his distinguished services to the department of the State to which he was so long attached.

" The Council have filled up the vacancy in the Inspectorship by the appointment of Professor J. Penberthy, F.R.C.V.S.

" Another old and faithful official who was called away in the midst of his work for the Society, was Mr. A. Goodman, who for nearly a quarter-of-a-century had been the Society's Auditor and Inspector of Cash. He discharged the duties of these offices with a

practised skilfulness and a painstaking conscientiousness which were valuable safeguards in connection with the Society's finances, whilst his sterling qualities gained for him the esteem and regard of all who were brought into contact with him.

"The Council have appointed his son, Mr. F. C. Goodman, F.C.A., of the firm of Messrs. A. Goodman, Sons, Pollard and Bruford, to succeed him in both offices.

"A crowning sorrow has, upon the eve of the Show, overtaken the Society in the death of Captain the Hon. John C. Best, a Vice-President, and for more than thirty years—and, until the last few weeks, when ill-health compelled his resignation—a Steward of the Yard and an active member of several of the Society's most important Committees. Only those most intimately associated with him, and who know how much the Society owed to his counsel and guidance, can adequately realise how great a gap his death has left. For many years he had been a prominent figure both in the Council Room and in the Show Yard, and no one could have served the Society in a spirit of greater devotion or with a higher regard for its best interests. His force of character and mental vigour never failed to inspire confidence in times of stress and strain, whilst the charm of his attractive personality was a source of strength to the Society whenever he represented it. He will live long in the memory of the Council as the most loyal of colleagues and for his unswerving attachment to the cause he had so much at heart.

"The Council have received an invitation, very cordially tendered, from the town and neighbourhood of Dorchester for the Society to hold its 1908 exhibition in that town, and have accepted it, subject to the usual conditions being complied with.

"The Council have also much pleasure in reporting that they have received a communication from the Mayor of Exeter stating that the Council of that city were unanimous in expressing a wish that the Society should visit the city in 1909."

X.—INTERIM REPORT OF AN EXPERIMENT FOR ASCERTAINING THE INFLUENCE OF VARIOUS MANURES UPON THE PRODUCTION OF MUTTON.

By W. Ashcroft, Steward.

The past year, 1907, makes the eighth of this experiment at Sevington, near Alresford, Hants.

Various particulars and details of the experiment have appeared from year to year in the Society's Journal, more particularly in the last four volumes, XIV.—XVII., and the reader is referred to them for details as to site, size of plots, manuring, etc., and the results annually obtained; the present report emphasizes anything of special interest arising out of last year's grazing, and its extended tables will make it easy to compare the results arrived at last year with any previous one.

ADDITIONAL MANURING.

In February of last year the ground lime (10 cwts. per acre) was repeated on Plot 8, and the Potash (= 51 lbs. per acre), in $1\frac{1}{2}$ cwt. Sulphate of Potash was repeated on Plot 7. In the beginning of April Sulphate of Ammonia (97 lbs. per acre) was repeated on Plot 9, and on June 13th, 5 cwt. Basic Slag per acre was applied to Plot 2.

SHEEP SELECTED.

The sheep bought for the purpose in March were 130 cross-bred tegs (Southdown and Kent) in good store condition; they were on the whole a trifle fresher in condition than those that have been bought for the past four or five years, but were not quite so heavy. Their weight in the wool unfasted, averaged 83.3 lbs.; the average weight of those put on in 1906 was 90.1, and in 1905, 86.2 lbs.

STOCKING THE PLOTS.

The number of sheep put on each plot was the same as the last five years, with the exception of Plot 2, on which nine were put instead of ten, and was as follows:—

12 sheep on Plots 1, 3, 4, 5, 7, 8, 9, 10, 11
9 ,, ,, 2 and 6.

DATE OF STOCKING.

The weather at the beginning of April not being favourable to the growth of grass, and the scanty growth of 1906 fresh in one's memory, the plots were not stocked quite as soon as last year. The sheep were weighed and put on April 17th; in 1906 the date was April 3rd, and in 1905, April 4th.

CHARACTER OF SEASON.

Any fears as to a repetition of the experience of 1906 were very soon dissipated, for the season throughout was essentially a growing one, the plots always being full of grass, and we were thus enabled to keep the sheep on them to advantage for six months.

Owing to the rapid growth in May, a good deal of top grass got away, more so than any season since 1902, but there was always good bottom herbage, and the season so far as weights of mutton produced and weights of grass cut on sub-plots, proved a record one. In no previous year have they produced as much mutton, or cut as much grass. This will be seen more easily if I extend here the two tables in last year's report giving the total increase of live weight on each plot and the increase as compared with the untreated plot, as well as the table giving the average monthly gain of all sheep on plots.

In taking this somewhat broad view of the experiment one must remember that the sheep have not always been on the same length of time each season; in 1902 they gained more weight in the first four months than they have ever done, but did not do so well afterwards; taking, however, the last four years for comparison with 1907 and in those five years the stocking has been exactly the same (with the exception of one sheep on Plot 2 this year), and comparing only the first four months of the season we find that 1907 quite takes first place.

AVERAGE MONTHLY GAIN OF ALL SHEEP ON PLOTS.

Year.	1st Month.	2nd Month.	3rd Month.	4th Month.	5th Month.	6th Month.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1900	9.5	6.7	9.2	5.5	..	..
1901	12.0	10.2	3.2	6.0	5.3	..
1902	17.5	11.5	9.9	7.7	.2	..
1903	14.5	9.7	6.3	2.5	4.0	4.6
1904	13.7	10.4	6.8	3.7	1.4	..
1905	10.9	9.1	8.2	5.8	2.4	2.9
1906	10.9	5.8	9.9	5.6	1.9 ^a	..
1907	14.1	11.7	10.3	4.6	3.7	2.4

^a from July 24 to August 18.

TOTAL INCREASE OF LIVE WEIGHT ON EACH PLOT, 1900—1907.

No. of Plot.	Total Increase in Live Weight in 1900. Untreated.	TREATMENT OF PLOTS.	Total Increase 1901.	Total Increase 1902.	Total Increase 1903.	Total Increase 1904.	Total Increase 1905.	Total Increase 1906.	Total Increase 1907.
	lbs.		lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1	214	{ 8 cwt. Cotton-cake or 2½ cwt. per acre fed in 1901 and 1902; none in 1903, 1904, 1905 and 1906. 14 cwt. or 4½ cwt. per acre 1907 }	435	523	444	377	405	261	622
2	221	{ 4 tons of Lime per acre. 5 cwt. Basic Slag per acre June, 1907 }	324	412	347	331	347	192	414
3	206	{ 10 cwt. Basic Slag (= 200 lbs. Ph. Acid) per acre }	361	570	500	366	492	396	579
4	220	{ 5 cwt. Basic Slag (= 100 lbs. Ph. Acid) per acre, and the same repeated for 1904 }	318	517	451	402	486	385	572
5	196	{ 7 cwt. Superphos. (= 100 lbs. Ph. Acid) per acre, and the same repeated for 1904 }	328	522	496	407	480	406	526
6	244	{ Untreated }	301	378	352	269	309	208	395
7	221	{ 7 cwt. Superphos. and 1½ cwt. Sulph. Potash (= 50 lbs. Potash) per acre; Potash repeated for 1903 and 1907, and the Super. repeated for 1904 }	266	506	504	409	541	408	548
8	221	{ 7 cwt. Super. and ½ ton ground Lime; ground Lime repeated for 1903 and 1907, and the Super. repeated for 1904 }	285	475	512	451	513	473	538
9	202	{ 7 cwt. Super. and 97 lbs. Sulph. Ammonia (= 20 lbs. N.) per acre, Sulph. of Ammonia repeated for 1903, 1904 and 1907, and the Super. repeated for 1904 }	258	438	490	363	385	306	485
10	234	{ 6 cwt. dis. bones (= 100 lbs. Ph. Acid and 17 lbs. N.) per acre, and the same repeated for 1904 }	279	456	477	381	420	467	483
11	235	{ Untreated in 1900, 1901, 1902; for 1903 5 cwt. Basic Slag per acre, and 4 cwt. Cotton-cake fed = 1½ cwt. per acre during 1903, 1904, 1905, 1906, and 5 cwt. = 1½ cwt. per acre 1907 }	293	355	541	477	450	427	534
Total	2,414	.. .. .	3,448	5,152	5,114	4,233	4,828	4,139	5,696

INCREASE OR DECREASE IN LIVE WEIGHT, 1901-1907, AS COMPARED WITH UNTREATED PLOT.

No. of Plot.	TREATMENT OF PLOTS.	Total Increase or Decrease in Live Weight of Mutton of Manured Plots over 2 Untreated Plots in 1901 and 1902, and over 1 Untreated Plot in 1903-1907.							Total Increase over Untreated Plot for 7 years.
		1901	1902	1903	1904	1905	1906	1907	
		lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1	8 cwt. Cotton-cake or 2½ cwt. per acre fed in 1901 and 1902; none in 1903, 1904, 1905 and 1906. 14 cwt. or 4½ cwt. per acre 1907	138+	157+	92+	108+	100+	7-	227+	815+
2	4 tons of Lime per acre. 5 cwt. Basic Slag per acre June, 1907	27+	46+	5-	62+	38+	76-	19+	111+
3	10 cwt. Basic Slag (= 200 lbs. Ph. Acid) per acre	64+	204+	148+	97+	183+	128+	184+	1008+
4	5 cwt. Basic Slag (= 100 lbs. Ph. Acid) per acre, and the same repeated for 1904	21+	151+	99+	133+	177+	117+	177+	875+
5	7 cwt. Superphos. (= 100 lbs. Ph. Acid) per acre, and the same repeated for 1904	31+	156+	144+	138+	171+	138+	131+	909+
6	Untreated .. .. .	..	..	..	..	..	..	..	..
7	7 cwt. Superphos. and 1½ cwt. Sulph. Potash (= 50 lbs. Potash) per acre; Potash repeated for 1903 and 1907, and the Super. repeated for 1904	31-	140+	152+	140+	232+	200+	153+	986+
8	7 cwt. Super. and ½ ton ground Lime; ground Lime repeated for 1903 and 1907, and the Super. repeated for 1904	12-	109+	160+	182+	204+	205+	143+	991+
9	7 cwt. Super. and 97 lbs. Sulph. Ammonia (= 20 lbs. N.) per acre, Sulph. of Ammonia repeated for 1903, 1904 and 1907, and the Super. repeated for 1904	39-	72+	138+	94+	76+	128+	90+	559+
10	6 cwt. dis. bones (= 100 lbs. Ph. Acid and 17 lbs. N.) per acre, and the same repeated for 1904	18-	90+	125+	112+	111+	199+	88+	707+
11	Untreated in 1900, 1901, 1902; for 1903 5 cwt. Basic Slag per acre, and 4 cwt. Cotton-cake fed = 1½ cwt. per acre during 1903, 1904, 1905, 1906, and 5 cwt. = 1½ cwt. per acre 1907 .. .. .	..	..	180+	208+	141+	150+	139+	830+
	Total	181+	1125+	1242+	1274+	1433+	1191+	1351+	

TOTAL INCREASE FOR THE FIRST FOUR MONTHS ON EACH PLOT.

				1903	1904	1905	1906	1907
				lbs.	lbs.	lbs.	lbs.	lbs.
Plot 1	..	..	..	326	366	365	261	546
" 2	..	..	..	311	321	298	192	348
" 3	..	..	..	427	380	457	396	524
" 4	..	..	..	362	417	466	385	518
" 5	..	..	..	403	422	446	406	454
" 6	..	..	..	288	272	288	268	337
" 7	..	..	..	420	456	478	468	491
" 8	..	..	..	426	485	442	473	491
" 9	..	..	..	412	389	350	396	464
" 10	..	..	..	400	440	370	467	443
" 11	..	..	..	432	470	390	427	465
Total ..				4207	4418	4350	4139	5081
Weights made on 1 and 2 ..				637	687	663	453	894
				3570	3731	3687	3686	4187

Even after subtracting the weights made on 1 and 2, which I did in last year's report, and which is all the more necessary this year (when the cake feeding is being repeated again on Plot 1 after an interval of four years), the same conclusion holds good, and the non-treated plot bears similar witness.

Seasons, of course, and sheep selected, vary. This year we had no casualties whatever, no sheep to send away, and in looking through the tables though there are a few sheep that one would have liked to do better, there is not one that can be called a bad doer. That, of course, is one factor towards a good return, and I might add the sheep seemed always contented and did not suffer as much annoyance from fly as they often have done, there were no great extremes of a dry and hot length of time, and there was always plenty of bottom herbage, with, on most of the plots, a fair percentage of clover.

It has not been the custom to burden this report with the lengthy tables supplied to the board of Agriculture, which give the monthly weights of each sheep individually, but the average gain per head per month on each plot can be seen in the following table:—

AVERAGE GAIN PER HEAD PER MONTH IN 1907.

Plot No.	Number of Sheep.	1st Month.	2nd Month.	3rd Month.	4th Month.	5th Month.	6th Month.	Total 6 Months.
		lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1	12	14.2	13.2	13.0	5.1	5.0	3.3	53.8
2	9	9.0	10.2	10.4	9.1	4.9	3.6	47.2
3	12	14.6	13.3	11.0	4.7	3.3	2.4	49.3
4	12	15.1	12.7	11.7	3.5	3.5	1.9	48.4
5	12	13.6	11.1	9.7	3.3	4.7	2.5	44.9
6	9	11.6	10.7	10.7	4.4	4.6	3.2	45.2
7	12	16.3	11.8	9.3	3.4	3.2	2.4	46.4
8	12	16.2	11.2	10.5	2.9	2.8	2.0	45.6
9	12	16.3	11.7	9.5	1.2	1.6	.3	40.6
10	12	14.2	10.8	8.8	3.1	2.8	1.3	41.0
11	12	14.4	11.6	8.7	4.0	3.9	3.6	46.2

I might remark here, as I have had occasion to remark before, that the smaller weights made in the last three months as compared with much higher gains made in the first three, do not quite represent the improvement made by the sheep in condition and handle. Though making only a small increase in weight, the sheep drawn to be killed in September and October could not have been drawn in August when I first commenced drawing for the butcher.

COMMENTS ON THE PLOTS INDIVIDUALLY.

Plot 1 (cake fed in 1901 and 1902, and none afterwards until this year).—This plot showed at first the same poor appearance as last year (the cake residue of 1901 and 1902 having, as pointed out in last year's Journal, become quite exhausted), but it was surprising how soon the effects of eating cake made themselves apparent; at the June weighing it was quite evident the herbage on the plot was fast improving and the improvement was maintained. In 1901 and 1902 the stocking was not quite so heavy and the sheep were not on so long as this year, therefore more cake has been consumed on the plot in 1907 than in either of those two years. More sheep and grazed for a longer time have, no doubt, helped to bring the total increase on the plot to 622 lbs. as compared with 523 lbs. in 1902, but I may also point out that a little of that increase is due to one of the sheep that turned out to be a ram, the testicles never having dropped. Oddly enough this sheep never showed any signs of being either a ram or a rig, but was always very quiet and made the large increase of 74 lbs. in four months. About 14 cwt. of cake was consumed on the plot in the course of the season.

Plot 2 (four tons of lime per acre for 1901 and 5 cwt. Basic Slag, June, 1907).—The application of 5 cwt. Basic Slag to this plot on June 13 wrought a marvellous transformation. It is commonly said Basic Slag requires time and plenty of rainfall before any effect can be seen, but by the August weighing, eight weeks afterwards, the change in the appearance of the plot was quite evident, and all through the following two months perfectly remarkable; plenty of healthy-looking small clover herbage all over the plot. It is most interesting to observe how immediately the sheep bear witness; turning to the table it will be seen how on Plot 2 the increase of weight per sheep in the 4th month was 9.1 lbs. No other plot approached that, not even where they were having cake, and the total increase for the fourth, fifth and sixth months, together was 17.6 lbs., which again is higher than any other plot. Of course, if the season had been a dry one this change could not have been effected, but in any season it is surprising to note such a quick alteration, and one looks forward to next year's grazing to see if the application will materially alter the hitherto very bad record of this limed plot.

Plot 3 (10 cwt. Basic Slag for 1901), furnishes another interesting part of the year's work. This is the seventh summer since 10 cwt. Basic Slag was applied, nothing has been added to that manuring since, and yet the plot, with the exception of No. 1 where the sheep were receiving cake, makes more weight of mutton than any other. It was really surprising to compare this plot with the untreated one, No. 6, and see what an extraordinary difference there was in the growth both of grass and clovers on the two plots, knowing at the same time it was all caused by an application of Basic Slag seven years ago. The total increase over the untreated plot for the seven years is 1,008 lbs., or 336 lbs. per acre, which although practically very much the same as Plot 7 with 986 lbs., or about 329 lbs. per acre, and Plot 8 with 991 lbs. or 330 lbs. per acre has been obtained at about one-third the expense. £1 5s. 0d. per acre as against £4 1s. 4d. and £3 16s. 10d., which is the approximate cost of the dressings applied to Plots 7 and 8.

Plot 4 (5 cwt. Basic Slag for 1901, and 5 cwt. for 1904), produced almost the same amount of mutton as Plot 3, and was very much alike it in appearance all through the season, so that with the exception of the cake fed plot, No. 1, the two Basic Slag plots this year stand first and second.

Plot 5 (7 cwt. Superphosphate for 1901 and 7 cwt. for 1904), in appearance resembled Plots 3 and 4 though there was hardly quite so much clover herbage, but it has not made so much

mutton; last year the order was the reverse, Plot 5 doing rather better than either 3 or 4.

Plot 6 (untreated) made, like the manured plots, more mutton than in preceding years, and the contrast between it and them was marked and as pronounced as anything in the experiment which repeats what has often been remarked in previous reports. I drew attention last year to the fairly consistent results from this plot, and give again the weights of mutton made on it during the first four months of the experiment each year:—

1900	..	..	244 lbs.
1901	..	..	265 „
1902	..	..	371 „
1903	..	..	288 „
1904	..	..	272 „
1905	..	..	288 „
1906	..	..	268 „
1907	..	..	337 „

The table would indicate that with the exception of 1902 the grass has been more nutritious in 1907 than any other year.

Plot 7 (same manuring as Plot 5, with $1\frac{1}{2}$ cwt. Sulphate of Potash added for 1901, 1903 and 1907) has not done comparatively speaking so well as it has done in the past four years—in appearance there was not much to choose between it and 3 and 4, but not so much mutton was produced. This again reverses the order of things, for Plot 7 has stood above these two plots in the preceding four years, if compared with Plot 5 there is a slight advantage in favour of Plot 7.

Plot 8 (same manuring as Plot 5 with 10 cwt. ground lime added for 1901, 1903 and 1907) accords in its results and appearance closely to Plot 7, and has also reversed the position it has taken in the last four years, having this year not done as well as 3 and 4 though also slightly above Plot 5.

Plot 9 (same manuring as No. 5, with 97 lbs. Sulphate of Ammonia added for 1901, 1903, 1904 and 1907), did decidedly well the first three months, but worse than any of the others during the last three; the forcing action of the Sulphate of Ammonia on the grass at first does not favour the growth of clover herbage later on, which seems to be a *sine qua non* for sheep to do well. The results this year only confirm the inferior position taken by this plot compared with all the other phosphatic plots.

Plot 10 (Dissolved Bones, 6 cwt. for 1901 and the same repeated for 1904).—The results on Plot 10 closely resemble Plot 9, and compare unfavourably with 3, 4, 5, 7, or 8, confirming what the

previous six years have for the most part shown, that phosphates applied either as Basic Slag or Superphosphate have in every plot, with the exception of Plot 9, produced more weight of mutton than on Plot 10 treated with Dissolved Bones.

Plot 11 (untreated in 1900, 1901 and 1902, 5 cwt. Basic Slag for 1903 and sheep receiving 1903—1907 cake at the rate of $\frac{1}{2}$ lb. per day for the last half of the grazing season).—This plot, considering its cake treatment since the application of Basic Slag in the winter of 1902, never looks quite so well as one would expect, the average return for the five years it has been under treatment is good, but compared with the other plots it has not done so well the last three as it did the first two of the five.

CASUALTIES.

As intimated earlier in the report we have been quite free from misfortunes this year; no sheep has been lost, and there was no occasion to send any away to be slaughtered.

DISPOSAL OF SHEEP.

Eighty sheep were sold by weight to the butcher in August, September, and October, and the remaining fifty sold to graze and finish October 3rd. The butcher reported the eighty sheep killed to be all of good quality; they were drawn from the following plots:

		Number of Sheep drawn for Butcher, Aug. 8th, Sept. 5th and Oct. 3rd.	
Plot	1	..	12
"	2	..	5
"	3	..	7
"	4	..	6
"	5	..	8
"	6	..	4
"	7	..	9
"	8	..	5
"	9	..	5
"	10	..	7
"	11	..	11
Reserve	..	..	1
			<hr/>
			80

Markets maintained their value and though bought in dear the sheep leave a fair margin of profit.

BALANCE SHEET.

PURCHASE.				SALE.			
	£	s.	d.		£	s.	d.
130 Sheep @ 41s. ..	266	10	0	80 Sheep @ 6s. 2d., less one			
Two Railway Freights ..	8	5	0	ram @ 4s. 10d. ..	182	9	3
Drovers, 8s., 5s., 7s. ..	1	0	0	50 Sheep @ 45s. 6d. ..	113	15	0
				130 Fleeces wool @ 8½d. ..	28	2	0
Balance of Sale over purchase ..	48	11	3				
	£324	6	3		£324	6	3

The difference in this and previous years between the buying and selling price has been as follows:—

1900	£20	3	9
1901	13	5	11
1902	52	13	6
1903	46	14	5
1904	44	18	0
1905	63	1	3
1906	29	7	9
1907	48	11	3

£318 15 10 = an average of
£39 17s. 0d.

WEIGHT OF GRASS CUT ON SUB-PLOTS $\frac{1}{20}$ TH AN ACRE.

No. of Plot.	1907.	1906.	1905.	1904.	1903.	1902.	1901.	1900.	Total excluding 1900.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1	313	111	261	410	295	432	82	201	1,904
2	201	94	267	324	198	370	41	163	1,406
3	745	201	541	622	440	825	84	182	3,458
4	1,011	200	724	715	333	722	112	140	3,817
5	891	220	524	591	341	763	42	123	3,372
6	565	177	313	578	264	412	96	101	2,406
7	1,100	404	646	804	320	750	72	80	4,096
8	972	318	566	695	305	740	117	165	3,713
9	1,108	316	307	726	391	862	151	225	4,130
10	1,041	911	437	800	585	836	181	218	3,861
11	803	302	501	420	594	574	97	207	3,331
	8,900	3,259	5,447	6,754	3,196	7,386	1,075	1,805	35,582

It will be seen from the whole than any previous piece of ground is any part of the experiment, any year and at the same present the average of a by no means bad crop.

FINANCIAL COMPARISON.

Treatment.		Total Increase in Weight of Mutton per acre in 7 years over Untreated Plot.	Money Value at 4d. per lb. Live Weight.	Cost of Manures per acre.	Profit per acre per annum. 7 years.	Loss per acre per annum. 7 years.
		lbs.	£ s. d.	£ s. d.	s. d.	s. d.
1	8 cwt. Cotton-cake, or 2½ cwt. per acre, fed in 1901 and 1902; none in 1903, 1904, 1905, and 1906. 14 cwt. or 4½ cwt. per acre 1907	272	4 10 8	3 17 4	1 11	
2	4 tons of Lime per acre. 5 cwt. Basic Slag per acre June, 1907	37	0 12 4	5 12 6	..	14 7
3	10 cwt. Basic Slag (= 200 lbs. Ph. Acid) per acre	336	5 12 0	1 5 0	12 5	
4	5 cwt. Basic Slag (= 100 lbs. Ph. Acid) per acre, and the same repeated for 1904	292	4 17 4	1 5 0	10 4	
5	7 cwt. Superphos. (= 100 lbs. Ph. Acid) per acre, and the same repeated for 1904	303	5 1 0	1 16 4	9 3	
6	Untreated .. .. .	..	..	..	..
7	7 cwt. Superphos. and 1½ cwt. Sulph. Potash (= 50 lbs. Potash) per acre: Potash repeated for 1903 and 1907, and the Super. repeated for 1904	329	5 9 8	4 1 4	4 0	
8	7 cwt. Superphos. and ½ ton ground Lime; ground Lime repeated for 1903 and 1907, and the Super. repeated for 1904	330	5 10 0	3 16 10	4 9	
9	7 cwt. Superphos. and 97 lbs. Sulph. Ammonia (= 20 lbs. N.) per acre; Sulph. of Ammonia repeated for 1903, 1904, and 1907, and the Super. repeated for 1904	186	3 2 0	4 4 8	..	3 3
10	6 cwt. dis. bones (= 100 lbs. Ph. Acid and 17 lbs. N.) per acre, and the same repeated for 1904	236	3 18 8	3 1 2	2 6	
11	Untreated in 1900, 1901, 1902, for 1903 5 cwt. Basic Slag per acre, and 4 cwt. Cotton-cake fed = 1½ cwt. per acre during 1903, 1904, 1905, 1906, and 5 cwt. = 1½ cwt. per acre 1907	278a	4 12 8	3 5 10	5 4 (5 yrs.)	

a For 5 years only.

studying the above table it is most necessary to remember in order to make comparison with the cost of manures, the t of mutton made over the untreated plot is worked out *per* In the other tables the *total* result on the plots of three acres n given.

In last year's Journal there was an error made in the calculation of the cost of manures for Plot 9 which has been corrected when adding the additional cost of this year's dressing—and the cost of the Sulphate of Potash for Plot 7 has been averaged for its three applications at £10 a ton. The table shows the results of the manures spread over seven years, which are in their main features very much in accord with comments already made in Vols. XVI. and XVII., and it will, perhaps, be as well to reserve further remark until the experiment is terminated, but it is as well to give again the same caution that was given in last year's Journal, viz., "that in studying the figures it must be remembered that no attempt is made to estimate the comparative value of the land for the remainder of the year; nor of the possibility of increased returns if the sheep could be changed about and the land rested, which, of course, is the practical and correct way of grazing, though the exigencies of the experiment preclude its adoption."

XI.—THE SOCIETY'S EXPERIMENTS FOR THE IMPROVEMENT OF PERMANENT PASTURE.

By E. A. Rawlence.

EXPERIMENTS AT STOCKBRIDGE, NEAR SHERBORNE, DORSET.

On land owned by F. J. B. Wingfield Digby, Esq., and occupied by Mr. Bird.

(Particulars of the earlier treatment of the Plots will be found in previous volumes of the Society's Journal.)

The great benefit which these clay lands receive from an application of Basic Slag is still very apparent, even after six years.

Two things are noticeable in these experiments, first the great improvement caused by another lighter dressing of Basic Slag, and second, the still greater improvement caused by a dressing of good farmyard dung applied one or two years after the Basic Slag. In this latter case, the grasses seem to participate equally with the clovers in the improvement. There is not much improvement in the five experimental plots (Vol. XV. 1904-1905, p. 118 and 119, Bath and West Journal). Plots 1 and 4 are the best, but even these look very bare against the rest of the two fields which have received either a second dressing of Basic Slag, or a dressing of dung after the Basic Slag.

EXPERIMENTS AT HATHERTON FARM, SAMPFORD COURTENAY,
N. DEVON.

On land owned by the Provost and Scholars of King's College, Cambridge, and occupied by Mr. James Searle.

The plots treated in January, 1902, can still be easily distinguished from the untreated land surrounding them. Here, as at Stockbridge, the benefit of a second application of Basic Slag, or a dressing of good farmyard manure one or two years after the first application of Basic Slag, has a good effect.

In the two arable fields, Nos. 1,010 and 1,285, Ord. (Vol. XV. 1904-1905, Bath and West Journal) there is still no improvement to be seen where Basic Slag was sown, in any of the crops grown, except grasses and clover. It would appear from this that, unless it is proposed to lay down the land to permanent pasture, the application of Basic Slag to arable land is not profitable.

Mr. Searle uses Basic Slag regularly every winter, and most of his pasture fields, which have been wholly or partially dressed over, have shown the same beneficial result.

XII.—THE SOCIETY'S CAERPHILLY CHEESE
EXPERIMENTS.

By Ernest Mathews.

The experiments carried out this year at the Society's Newport Exhibition were undertaken with a view of solving a question of local interest, viz. :—whether it is more profitable to make Caerphilly cheese from whole milk, or to take one skimming of cream, churn the cream into butter, and convert the skimmed milk into cheese—a practice prevailing in the district.

The cheeses made from whole milk would, in the ordinary course, be better than those made from skimmed milk, and should command a higher price. But whether the higher price exceeds the price of the cheeses made from the skimmed milk, plus the butter obtained from the cream, was a point which it was thought the experiments might, perhaps, elucidate.

The cattle of the country are principally Dairy Shorthorn and Welsh cows, but, unfortunately, sufficient milk from these breeds was not obtainable from cows in the show yard, and, therefore, the experiments had to be carried out with milk from other breeds of cattle.

The milk procurable which approximated most closely to the quality of the Shorthorn milk was that from Kerry cows, being of rather a better quality than any other obtainable. (The percentage of fat in Kerry milk is higher than in Shorthorn milk.) It was thought advisable that an attempt should be made to carry out the experiment with this milk rather than abandon it altogether, while for the sake of trying to learn something more on the question, a second experiment, on exactly the same lines, was carried out simultaneously with Jersey milk, of which there was plenty obtainable.

WHOLE MILK CHEESES.

Twelve gallons of Jersey and twelve gallons of Kerry milk were obtained on Wednesday evening, the first day of the show, from cattle in the yard. These were divided into two equal portions of six gallons each; one lot of each being put aside to stand for fifteen hours for the cream to rise, the other being at once made into cheese.

The process of manufacture was as follows:—The milks were set at a temperature of 86° F., and renneted with two drachms of rennet (Hansen's Extract); that is one drachm of rennet to every three gallons of milk.

The milk was next stirred deep for three minutes and then on the top, in order to prevent the cream from rising until the rennet had taken effect, which occurred in about fifteen minutes. After standing an hour, the curd was first cut vertically with an American curd knife, then horizontally, the curd appearing in cubes about one quarter of an inch.

The curd was then stirred for about ten minutes with the hand, after which the whole was gradually heated up to 88° F.

The curd was again stirred for twenty minutes and was then left to cool for thirty minutes, after which the whey was run off and the curd allowed to dry. It was then ladled into bundles and placed on the draining table.

After waiting twenty minutes, the curd was cut into 2½ in. cubes, in order to assist drainage, and again left to stand for a further period of ten minutes; thus allowing about thirty minutes in all for draining after coming out of the cheese tub.

The curd from the Jersey milk took ten minutes longer than the Kerry.

The curd was next weighed, broken up, salted (1oz. of salt being added to every 3 lb. of curd), and vatted.

The cheeses were then put under the press, the cloths being changed for the first two days. The weights of the press were as follows :—1st day, 5 cwts. ; 2nd day, 10 cwts. ; 3rd and 4th days, 15 cwts.

SKIMMED MILK CHEESES.

The skimmed milk cheeses were made in the same way as the whole milk cheeses, the manufacture taking place on the day following, after the milk had stood fifteen hours and the cream being skimmed off by hand.

Both lots of cheese were weighed on the fifth day, and the weights noted. They were then sent to the Monmouthshire County Council Cheese School, where they were kept for a month, and judged for value by Mr. Edgar J. Lewis, a gentleman of great experience in this particular quality of cheese. The whole milk cheeses were kept for a further period of three months, and again judged by Mr. Lewis.

The judge's remarks, on July 8th, when he first judged the cheeses, are as follows :—

“The skimmed cheeses are ready for sale, and will not further improve by being kept longer. The whole milk cheeses are valued at storing price, and should be kept for two or three months longer. If that is done I shall be glad to value them again when ripe.”

In the second report on the whole milk cheeses, he says :—

“The Jersey whole milk cheese is quite ripe, rich, and good, but it has not the true Caerphilly flavour—being more like Stilton, and the colour is too deep. The Kerry whole milk cheese has the characteristic whole milk flavour. It is rich and of good colour, but requires a longer time to ripen ; when quite ripe it would fetch top market price.”

The two tables appended to this report give the weights of the cheeses during the different stages of manufacture and also the prices at which they were valued by Mr. Lewis.

BUTTER.

The two lots of Jersey and Kerry milk, which were set for cream, were skimmed on the Thursday morning, after standing fifteen hours, the creams being kept until the following day, when they were churned and made up into butter.

Both lots of cream were treated alike ; the temperatures of the churn and creams being 54° F.

The weights of butter obtained were as follows :—Jersey, 1 lb. 9 oz. ; Kerry, 1 lb. 0½ oz.

The butters were judged and priced respectively at 1s. 4d. and 1s. 2d. per lb.

The following tables give the full result of the experiments, No. 1 relating to the whole milk cheeses; No. 2 to the cheese and butter made:—

TABLE I
WEIGHT AND VALUE OF CAERPHILLY CHEESE MADE FROM WHOLE MILKS.

No.	Breed.	Milk. lb.	Curd. lb. oz.	Cheese out of press. lb. oz.	Cheese 1 month old lb. oz.	Value. Rate per cwt. s. d.	Cheese. 3 months old. lb. oz.	Value. Rate per cwt. s. d.
1	Jersey ..	60	11 0	10 6	8 15	55s. 4 4½	7 10½	68s. 4 7½
2	Kerry ..	60	10 6	9 15½	8 2½	53s. 3 10½	6 13	65s. 3 11½

TABLE II.
WEIGHT AND VALUE OF CAERPHILLY CHEESE AND BUTTER MADE FROM SAME SAMPLES
AND WEIGHTS OF MILK AS ABOVE.

No.	Breed.	Milk. lb.	Curd. lb. oz.	Cheese. out of press. lb. oz.	Cheese 1 month old lb. oz.	Value Rate per cwt. s. d.	Weight of Butter. lb. oz.	Value Rate per lb. s. d.	Total. s. d.
3	Jersey ..	60	9 2½	7 9½	6 8	46s. 2 8	1 9	1 4	2 1 4 9
4	Kerry ..	60	9 13	6 15	5 12½	48s. 2 5½	1 0½	1 2	1 2½ 3 8½

From the foregoing table it would appear that the richer Jersey milk yields a more profitable return when cheese is made from skimmed milk and butter obtained from the cream; while it would seem that in the case of Kerry milk, and milk not so rich in fat as the Channel Islands milk, it is better to make cheese from whole milk, and discard the idea of getting butter at all from the milk which is required for cheesemaking.

The remarks of the Judge (Mr. Lewis) in his second report on the whole milk Kerry cheese confirm this view, and if a third valuation and report on this particular cheese could have been made, the figures would doubtless have still further accentuated the economy of making one good article rather than two inferior ones.

The figures for comparison are as follows :—

	<i>s.</i>	<i>d.</i>
Jersey cheese from whole milk produces ..	4	7½
Jersey cheese from skimmed milk, plus butter, produces	4	9
Kerry cheese from whole milk produces ..	3	11½
Kerry cheese from skimmed milk, plus butter, produces	3	8½

This experiment would bear repeating, and it appears to me that, at any rate, the makers of *Caerphilly* cheese might think it worth their while to carry out at home more extensive trials in this direction.

It is only right to state that, throughout the experiments at the show and afterwards in the work done at the Cheese School, Miss Jenny Reid, the dairy instructress to the Monmouthshire County Council, was indefatigable, and to her and her assistant, Mr. Herbert, the results obtained are mainly due.

The generosity of the Monmouthshire County Council, in lending their plant and allowing Miss Reid and Mr. Herbert to assist, must also be recognised, for without their kind co-operation these experiments could not have been carried out. The Council of the Bath and West and Southern Counties Society are greatly indebted to them.

To Mr. Somerville, who assisted me throughout, my personal thanks are also due.



XIII.—THE SOCIETY'S EXHIBITION AT NEWPORT.

By Thos. F. Plowman, Secretary and Editor.

The Society's 1907 Exhibition at Newport was opened on Wednesday, June 5, and closed on Tuesday, June 10.

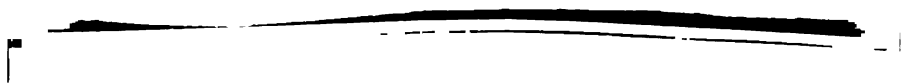
A plan showing the situation and arrangement of the Yard will be found facing this page.

The meeting was especially noteworthy from the fact that his Royal Highness the Prince of Wales, who was the President for the year, paid a visit to the Show; an honour which afforded much gratification and pleasure both to the members of the Society and to the inhabitants of the town and district. The exhibition will also hold its place in memory by virtue of a much less agreeable circumstance, namely the remarkable and continuous downpour of rain, which, being quite exceptional, did much to mar what, in all other respects, was a most successful gathering. Notwithstanding the adverse weather the exhibition was a financial success, as will be seen from the statement on page cli of the Appendix.

ENTRIES.

The following is a comparative statement of the entries in the Stock and Produce Classes in 1888, 1904, and 1907 :—

	Newport, 1888.	Swansea, 1904.	Newport, 1907.
HORSES :—			
Agricultural	38	67	60
Hunters, Hacks, Ponies, Harness and Jumping	92	216	224
	— 130	— 283	— 284
CATTLE :—			
Devons	36	19	34
South Devons	0	18	27
Shorthorns	80	59	83
Herefords	58	69	54
Sussex	39	10	11
Jersey	122	100	69
Guernsey	63	40	29
Kerry and Dexter	0	47	44
Red Polled	0	15	6
Aberdeen-Angus	0	24	25
Welsh	28	32	25
Dairy	9	38	30
Any Breed	0	4	0
	— 435	— 475	— 437
SHEEP	160	131	193
PIGS	85	158	161
POULTRY	429	335	444
FARM PRODUCE :—			
Cheese	42	51	68
Butter and Cream	95	104	97
Cider, &c.	0	52	68
	— 137	— 207	— 233
	1,376	1,589	1,752





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A list of the Awards, names of the Judges, &c., will be found on pages i—lxxxiii of the Appendix to this Volume.

CIDER.

A separate report dealing with the Cider section of the Exhibition will be found on pages 135 to 138.

PRIZES.

The Money Prizes in 1907 were contributed as follows :—

	£	s.	d.
Bath and West and Southern Counties Society	2,889	15	0
Newport Local Committee	201	0	0
Shire Horse Society	5	0	0
Bedwelty Agricultural Society	24	0	0
Hackney Horse Society (or Medal)	5	0	0
Welsh Pony and Cob Society	12	0	0
Lord Tredegar	12	0	0
Newport Licensed Victuallers' Association	10	10	0
Chas. D. Phillips, Esq., J.P.	6	0	0
T. Morgan, Esq., President of Newport Butchers and Cattle Dealers' Association	6	0	0
Shorthorn Society	20	0	0
Red Polled Cattle Society	15	5	0
English Aberdeen-Angus Cattle Association	10	0	0
Welsh Black Cattle Society	10	0	0
English Jersey Cattle Society	51	0	0
Lincoln Long-Wool Sheep Breeders' Association	10	0	0
Southdown Sheep Society	17	0	0
Hampshire Down Sheep Breeders' Association	10	0	0
Oxford Down Sheep Breeders' Association	10	0	0
Risca Committee of Bedwelty Agricultural Society	15	0	0
British Berkshire Society	5	0	0
Large Black Pig Society	12	0	0
Monmouthshire County Council	58	10	0
W. P. James, Esq., of Abersychan, Mon.	7	0	0
United Counties Agricultural Society	12	0	0
	£3,434	0	0

Gold, Silver, and Bronze Medals were also given by the Society and Medals or Plate by the Shire Horse Society, the Hunters' Improvement Society, the Imperial Hunter Stud Book, Boscombe, Hampshire, the Hackney Horse Society (or £5), the Polo and Riding Pony Society, the Town of Devonport, the Sussex Herd Book Society, the Polled Cattle Society, the English Aberdeen Angus Cattle Association, B. de Bertodano, Esq., the English Kerry and Dexter Cattle Society, the English Jersey Cattle Society, the Southdown Sheep Society, the British Tamworth Pig Breeders' Association, the National Pig Breeders' Association, and Mr. Councillor L. S. Abrahamson.

IMPLEMENTS.

The following is a comparative statement of the number of feet run of Shedding provided for Implements, Machinery, &c.,* and of the number of square feet of open space occupied by exhibits unsuitable for Shedding :—

	Newport, 1888.	Swansea, 1904.	Newport, 1907.
Machinery in Motion .. feet run	812	1,358	1,442
Agricultural Implements	3,767	3,085	3,640
Carriages, Motors, and other Exhibits not strictly Agricultural } ..	1,200	950	935
Seeds, Cattle Foods, Artificial Manures, &c. } ..	800	847	945
	6,579	6,240	6,962
Open space for Farm and Horticultural Buildings, &c. .. sq. feet	15,795	20,644	31,771
	22,374	26,884	38,733

MISCELLANEOUS DEPARTMENTS.

Nature Study and Forestry Exhibitions (particulars of which are given on pages 138 to 144) were again noteworthy features of the Show, and excited unusual interest.

A fully equipped Working Dairy, in which the Butter-Making Competitions were held, formed as usual a prominent feature of the Show. Here various dairy implements and appliances—including power and hand separators—were shown at work, and the best methods of making butter and clotted cream were practically demonstrated.

There were also Shoeing, Buttermaking, Milking, Timbering, Splicing and Ambulance Competitions, and Beekeeping Demonstrations, the following being a comparative statement of the entries :—

	Newport, 1888.	Swansea, 1904.	Newport, 1907.
Butter-Making	58	135	201
Shoeing	51	117	119
Milking	0	12	35
Timbering and Splicing	0	37	12
Ambulance	0	0	10
	109	301	377

The Show was inaugurated on the opening day by the Mayor of Newport, who attended in State, accompanied by the members of the Corporation, and by the Local Committee. They were received

* Since 1886 the Society has felt it necessary to considerably restrict the exhibition of Miscellaneous goods by excluding those of an inferior class.

by the acting President of the Society (the Earl of Radnor), and the members of the Council of the Society.

Daily musical performances were given by the band of H.M. Grenadier Guards.

The usual Sunday service, at which there was a large attendance of herdsmen and others engaged in the yard, was held in the Working Dairy. It was conducted by the Society's Chaplain (the Rev. A. T. Boscawen), who was assisted by the Vicar of Christchurch, Newport (the Rev. A. H. Harrison), the sermon being preached by the Bishop of Llandaff (Dr. J. R. Hughes).

Reference must be made to the kindly thought of the Newport Branch of the Young Men's Christian Association, who this year, for the first time, had space in the Show Yard placed at their disposal by the Stewards for the erection of a reading and writing tent for the special use of those engaged in looking after the stock, etc., in the yard. Here the Association, besides providing stationery, &c., gave little entertainments and addresses in the evening. The provision made for them was thoroughly appreciated by those for whom it was intended. One of the herdsmen said that he had attended shows for twenty-five years and had never before written home during a Show, but that when he found pens, ink and paper ready to hand and a suitable place in which to use them, he sat down on the Sunday and wrote to his children. It is to be hoped that such a want may always be provided for in the future.

The first of the following tabular statements refers to the number of persons who paid for admission to the Show Yard, and the second to the admission receipts :—

Number of Admissions.						Nottingham, 1905.	Swindon, 1906.	Newport, 1907.
At 7s. 6d. (Season Tickets)	..	..	..	..	..	78	146	259
" 2s. 6d.	..	..	..	..	..	8,242	7,274	15,088
" 1s.	..	..	..	..	..	42,347	37,196	35,363
" 6d.	..	..	..	..	..	4,210	5,235	3,345
Total	..	..	..	..	..	54,877	49,851	54,055

						Nottingham, 1905.			Swindon, 1906.			Newport, 1907.		
						£	s.	d.	£	s.	d.	£	s.	d.
Show Yard	..	..	..	..	..	3,282	2	0	2,954	9	9	3,834	14	3
Horse Ring Stand	..	..	..	..	..	280	3	0	227	14	6	346	13	6
Working Dairy	..	..	..	..	..	2	9	6	5	18	6	15	6	0
						£3,564	14	6	3,188	2	9	4,196	13	9

A comparative statement of attendances since 1852 will be found on pages xcv, xcvi of the Appendix to this volume.

The attendance of the general public may be considered satisfactory, in view of the extremely wet weather, which lasted during the whole term of the exhibition. The Society has had trying experiences in this respect in some previous years, but it was generally conceded that the climatic conditions on this occasion had for unpleasantness never been surpassed within living remembrance.

XIV.—THE MILK AND BUTTER TEST CLASSES AT THE NEWPORT EXHIBITION.

By Ernest Mathews.

MILK TEST CLASSES.

Only eleven cows in all actually competed for the prizes given in the two classes, 119 and 120, which number compares very unfavourably with that at Swindon, in 1906, and Nottingham, in 1905.

In the light weight class for cows under 900 lbs. live weight, all the animals were Jerseys; in the heavy weight class the five animals consisted of one Shorthorn, one cross-bred, and three South Devons.

With the solitary exception of the first prize cow, the Jerseys did not come up to their usual standard, the cows not milking nearly as well as they were expected to do. This may be accounted for by the very wet weather and the cold nights.

The first prize was won by Mr. Smith-Barry's "Marigold," with a milk yield of 43 lbs. 8 oz., having been one hundred and forty-four days in milk. This cow competed last year at Swindon, when the percentage of fat in her morning's milk came out at 2.70 only.

In Class 120, for cows over 900 lbs. live weight, the first prize was won by Mr. W. P. Vosper's "Honesty 3rd," with a yield of 61 lbs. 2 oz. of milk, having been ninety-four days in profit. Lord Rothschild's cow, "Dorothy," which gave the extraordinary yield of 69 lbs. 14 oz., or within two ounces of seven gallons of milk, failed to obtain a prize, her fat percentage in the morning's milk being only 2.55, although in the evening it went up to 4.70.

The tables on pages 132, 133 give full particulars of the trials.

BUTTER TEST CLASSES.

As in the milk test trials, the cattle competing for the butter test prizes offered by the English Jersey Cattle Society were divided into two classes, one for animals under 900 lbs. live weight, the other for animals 900 lbs. live weight and over.

The prizes in each class were as follows :—First, £10; second, £3; third, £2; and, in addition, the gold, silver and bronze medals of the English Jersey Cattle Society were offered for the three Jersey cows, entered or eligible for entry in that Society's Herd Book, obtaining the greatest number of points in the test irrespective of their live weight, as well as a special prize of £1 for the best quality of butter produced by any Jersey cow awarded a medal, prize, or certificate of merit, in the test.

The trials were carried out on the same lines as on previous occasions, the awards being made on the scale of points adopted by the English Jersey Cattle Society.

My official report as Judge was as follows :—

“ Only eleven cows arrived in the showyard to compete for the medals and prizes offered by the English Jersey Cattle Society for a butter test. One animal was withdrawn on account of illness, leaving seven Jerseys and three South Devons to be tested. The weather was exceedingly cold, and for the first three days of the show the rain was almost continuous, which may account for the very poor results shown in the accompanying table.

“ In the class for cows under 900 lbs. live weight, the first prize was awarded to Mr. J. H. Smith-Barry's “ Marigold,” to which also was awarded the English Jersey Cattle Society's gold medal and the 17 prize for the best quality of butter, no other cow obtaining sufficient points to qualify for a prize or certificate of merit. In the heavy-weight class the first prize was won by Mr. Vosper's “ Honesty 3rd,” and the second prize by Mr. J. S. Wroth's “ Nosegay 4th,” the third cow failing to qualify for the third prize. The averages are as follows :—

		Days in Milk.	Yields.		Butter Ratio.	Points.
			Milk. lbs. oz.	Butter. lbs. oz.		
7 Jerseys	..	100	34 8½	1 7¼	23.26	29.80
3 South Devons	..	98	50 2	1 14¼	26.51	36.08

“ The arrangements for carrying out the tests were excellent, and my special thanks are due to Mr. A. F. Somerville, Miss Read, Mrs. Luke, and Miss Kirk, who gave me every assistance.”

The accompanying tables give full details of the tests.

CLASS 119

MILK TEST CLASSES.

No. in Catalogue.	Exhibitor and Cow.	Breed.	Date of Birth.	No. of Days in Milk.	Quantity of Milk	
					Morning.	Evening. T
					lbs. oz.	lbs. oz. lb.
533	W. B. Roderick's "Goodig Evelyn"	Jersey	Ap. 4, 1902	109	16 0	12 10 28
534	W. B. Roderick's "Forfarshire Princess" .. ..	..	Sep. 18, '02	82	14 8	11 14 20
535	Lord Rothschild's "Golden Stream"	..	1893	83	21 12	16 10 38
536	J. H. Smith-Barry's "Marigold"	..	June 7, '01	144	22 12	20 12 43
537	Lady Smyth's "Lily's Fancy 16"	..	May 24, '02	58	22 8	16 2 38
539	R. B. Ward's "Lucy" .. ..	..	July 24, '00	133	21 8	15 2 36
CLASS 120						
168	J. S. Wroth's "Nosegay 4" ..	S. Devon	Jan. 4, 1900	123	24 14	20 2 45
196	Lord Rothschild's "Dorothy" ..	Shorthorn	Ap. 25, 1901	65	41 0	28 14 60
538	G. W. Stark's "Nancy" ..	Crossbred	Ap. 21, 1902	85	32 12	24 2 56
540	W. P. Vosper's "Dairymaid 4"	S. Devon	Jan. 27, 1898	78	25 8	18 12 44
542	W. P. Vosper's "Honesty 3" ..	S. Devon	Nov. 7, 1898	94	34 6	26 12 61

MILK TEST CLASSES.

Quality of Milk.				No. of Points for Milk.	No. of Points for Lactation.	Total No. of Points.	Awards.
Morning.		Evening.					
Fat.	Solids.	Fat.	Solids.				
3.10	12.17	4.05	12.90	28.62	6.90	35.52	Third Prize. First Prize. Second Prize.
4.15	13.80	4.75	14.09	26.37	4.20	30.57	
4.00	13.29	5.05	14.20	38.37	4.30	42.67	
3.20	12.87	5.50	15.16	43.50	10.40	53.90	
3.65	12.94	4.25	13.34	38.62	1.80	40.42	
3.90	13.09	3.10	12.48	36.62	9.30	45.92	
3.10	12.54	4.50	13.68	45.00	8.30	53.30	Third Prize.
2.55	11.60	4.70	13.86	69.87	2.50	72.37	Disqualified.
3.15	12.12	3.65	12.63	56.87	4.50	61.37	Second Prize.
2.55	11.53	3.90	12.69	44.25	3.80	48.05	Disqualified.
3.40	12.83	4.25	13.61	61.12	5.40	66.52	First Prize.

ENGLISH JERSEY CATTLE SOCIETY'S BUTTER TEST.

CLASS 121.

COWS OF ANY BREED OR CROSS UNDER 900 LBS. LIVE WEIGHT.

No. in Catalogue.	Exhibitor.	Name of Cow.	Breed.	Date of Birth.	Date of Last Calf	No. of Days in Milk.	Milk Yield—Total.	Butter Yield.	Ratio, viz., lbs. Milk to lbs. Butter.	No of Points for Butter.	No. of Points for Lactation.	Total No. of Points.	• Awards.
410	Lady Smyth	Lucilla	Jersey	Mar. 26, 1907	1907 March 14	85	lb. oz. 29 10 1 3½	lb. oz. 24 30	19.50	4.50	24.00		
533	W. B. Roderick	Goodig Evelyn	Jersey	April 4, 1902	Feb. 18	109	28 10 15½	29.03	15.75	6.90	22.65		
534	W. B. Roderick	Forfarshire Princess	Jersey	Sept. 18, 1902	March 17	82	26 6 1 3	22.21	19.00	4.20	23.20		
535	Lord Rothschild	Golden Stream	Jersey	1898	March 16	83	38 6 1 13½	20.63	29.75	4.30	34.05		
536	J. H. Smith-Barry	Marigold	Jersey	June 7, 1901	Jan. 14	144	43 8 1 13½	21.91	31.75	10.40	42.15		1st Prize, £10, and E.J.C.S. Gold Medal and £1, Butter Prize
537	Lady Smyth	Lily's Fancy 16th, Imp.	Jersey	May 24, 1902	April 10	58	38 10 1 10	23.76	26.00	1.80	27.80		
539	R. B. Ward	Lucy	Jersey	July 24, 1900	Jan. 25	133	36 10 1 9½	22.93	25.50	9.30	34.80		

* No other animals in these Classes have gained sufficient points to qualify for prizes.

CLASS 122.

COWS OF ANY BREED OR CROSS 900 LBS. LIVE WEIGHT OR OVER.

168	J. S. Wroth ..	Noeagay 4th ..	S. Devon	Jan. 4, 1900	Feb. 4	123	45 0 1 10½	26.91	26.75	8.30	35.05	2nd Prize, £3.
540	W. P. Voepor ..	Dalrymald 4th ..	S. Devon	Jan. 27, 1899	March 21	78	44 4 1 8½	29.19	24.25	3.80	28.05	
542	W. P. Voepor ..	Honesty 8rd ..	S. Devon	Nov. 7, 1898	March 5	94	61 2 2 7½	24.80	39.75	5.40	45.15	1st Prize, £10.
538	G. W. Stark ..	Nancy ..	Cross Bred		March 14	85	56 14			4.50		

XV.—THE CIDER CLASSES AT THE NEWPORT EXHIBITION.

By E. W. Farwell, Steward.

The entries of Cider at the Newport Exhibition in 1907 numbered sixty-five, as against sixty-three at Swindon in 1906, seventy-three at Nottingham in 1905, and fifty-two at Swansea in 1904. With the addition of three classes for Cider made in Monmouthshire, in which the prizes were offered by the Monmouthshire County Council, the classification was the same as at Swindon the previous year.

The entries in the several classes were as follows :—

Cider made in 1906.				<i>Entries.</i>
Class	184—Cask of Cider	..	..	14
„	185—12 Bottles of Cider	..	..	27
Cider made in any year previous to 1906.				
Class	186—12 Bottles of Cider	..	..	8
Cider made in Monmouthshire in 1906.				
Class	187—Cask of Cider	..	..	6
„	188—12 Bottles of Cider	..	..	6
Cider made in Monmouthshire previous to 1906.				
Class	189—12 Bottles of Cider	..	..	4
				65

The foregoing list shows in the open classes fourteen entries of new cider in cask, as against eighteen in the previous year at Swindon; twenty-seven of new cider in bottle, as against thirty; and eight entries of old cider as against fifteen.

In accordance with the usual conditions, all exhibits had to be delivered into the yard ten days before the opening of the Show, the cases being then unpacked and both bottles and casks placed in position. There was only one absent entry. On the 25th May a sample from each entry was taken and forwarded in a special bottle sent for the purpose to Mr. F. J. Lloyd, F.C.S., for analysis. Particulars of these analyses were received from Mr. Lloyd on Tuesday, the 4th June, and are set out in the table appended to this article. Out of the sixty-four samples sent for analysis, two were disqualified for containing preservatives.

Mr. W. J. Grant, of Pentonville, Newport, Mon., was the judge appointed by the Society, and he fulfilled his duties on the first day of the show.

For cider in cask made in 1906, Messrs. R. Rout & Son were awarded first prize for a light, sweet cider; the second prize went to Mr. W. T. S. Tilley, and the third prize to Mr. H. J. Davies, both of whom sent ciders with plenty of body but which left a slight after-taste in the mouth. The Reserve card went to Messrs. D. J. Crofts & Son. None of the remaining ten entries were considered worthy of mention.

In the class for bottled cider made in 1906, Mr. Tilley obtained first and second prizes with ciders which while clean and palatable were far too sweet, and Mr. R. Johnston was awarded third prize for a pleasant light and wholesome summer beverage. Mr. C. Dart's entry was reserved, and Mr. Tilley was very highly commended for another entry. There was great variation in colour in this class, and many of the entries did not represent the best types of cider.

For bottled cider made previous to 1906, Messrs. R. H. Ridler & Son were awarded first prize, Mr. T. Stone second, and Mr. Tilley third; Messrs. Crofts & Son being reserved, and Mr. Johnson highly commended. The judge had some trouble to adjudicate between the first three ciders, as they represented three distinct types of cider and were fair examples of the vintages of their respective counties, viz.:—Hereford, Devon and Somerset.

For a nine gallon cask of cider made in Monmouthshire in 1906, Mr. R. Johnson was easily first with a sweet light cider. The second prize was secured by Mr. E. A. Stead, whose cider had, however, a distinct aftertaste, the third prize by Mr. J. Taylor, and reserve card by Mrs. Stead & Sons.

For bottled Monmouthshire cider made in 1906, Mr. R. Johnson again took first prize for a light cider, which was, however, far too sweet. Mr. A. E. Jones was second with a clean, weak cider; Mr. J. W. Davies third with another light cider; and Mr. E. A. Stead was reserved.

For bottled cider made in Monmouthshire previous to 1906, the first prize again went to Mr. Johnson, who sent a pleasant light cider. Mr. J. W. Davies took second prize for a clear summer drink, Mr. A. E. Jones third prize, and Mrs. Stead & Sons the reserve card.

The open classes for cider at the Dorchester Show in 1908, will be similar to those at Newport, but, in order to encourage tenant farmers who hesitate to compete with regular and more experienced exhibitors, the Council of the Society have added what may be called "Novice" classes for cask and bottled cider made in 1907, with prizes of silver and bronze medals in each

class. The competition is confined to bona-fide tenant farmers who have never taken a first prize at any public exhibition.

The reason urged for the introduction of these classes is that, although during the past ten years the cider industry has made great strides in the hands of the regular cider makers, farmers generally have not shared in the improvement, and it was felt that if they could only be induced to give that care and management necessary to good cider-making, the orchard and its produce would be found to be, on many farms, next to the dairy, the principal source of revenue. It is to be hoped, therefore, that the addition of these two classes will induce beginners and others who have not hitherto been successful to enter for these prizes, whilst, at the same time they can, if they see fit, compete also in the open classes.

ANALYSES.

Class No.	Name of Exhibitor.	Specific Gravity at 60° F.	Alcohol by Volume.	Acidity.	Solids per cent.	Award.
184	1 D. J. Crofts & Son	1.022	4.10	.32	6.71	R.
	2 C. Dart ..	1.037	2.70	.54	9.97	
	3 H. J. Davis ..	1.026	4.30	.45	7.81	3rd Prize.
	4 H. J. Davis ..	1.031	3.80	.33	8.87	
	5 J. Kinsey ..	1.020	3.40	.37	5.94	1st Prize.
	6 R. Rout & Son ..	1.038	2.70	.37	10.81	
	7 T. Stone ..	1.022	4.50	.48	6.87	2nd Prize.
	8 T. Stone ..	1.025	3.15	.38	7.33	
	9 T. Stone ..	1.025	3.50	.41	7.22	
	10 J. H. Symes ..	1.030	4.15	.79	8.74	
	11 W. T. S. Tilley ..	1.031	3.98	.47	9.34	
	12 W. T. S. Tilley ..	1.030	4.45	.48	9.18	
	13 H. M. Wardlaw ..	1.008	6.80	.41	4.09	
	14 Yeoman Bros. ..	1.024	3.80	.43	7.11	
185	15 F. Ballard ..	1.026	4.25	.55	7.78	H.C.
	16 J. Bosley ..	1.032	2.50	.70	8.67	
	17 J. Bosley ..	1.032	2.25	.59	9.25	R.
	18 J. Bosley ..	1.034	2.15	.68	8.87	
	19 D. J. Crofts & Son	1.027	3.85	.41	7.87	3rd Prize.
	20 C. Dart ..	1.034	3.00	.46	9.33	
	21 H. J. Davis ..	1.026	4.25	.44	7.77	C.
	22 H. J. Davis ..	1.025	4.90	.51	7.74	
	23 R. Johnson ..	1.031	2.65	.34	8.46	C.
	24 J. Kinsey ..	1.033	1.95	.24	8.70	
	25 C. Osborn & Sons	1.017	5.25	.46	5.86	C.
	26 C. Osborn & Sons	1.011	6.30	.45	4.69	
	27 R. H. Ridler & Son	1.031	3.50	.56	9.04	C.
	28 R. H. Ridler & Son	1.036	3.15	.76	9.90	
	29 R. H. Ridler & Son	1.027	4.25	.46	8.03	C.
	30 R. Rout & Son ..	1.015	5.50	.48	5.45	
	31 R. Rout & Son ..	1.009	5.50	.57	4.05	C.
	32 T. Stone ..	1.023	4.00	.35	7.00	
	33 T. Stone ..	1.021	3.80	.40	6.84	

Class	No.	Name of Exhibitor.	Specific Gravity at 60° F.	Alcohol by Volume.	Acidity.	Solids per cent.	Award.
185	34	T. Stone ..	1.019	5.55	.40	6.51	H.C.
	35	J. H. Symes ..	1.020	5.65	.46	6.75	
	36	W. T. S. Tilley ..	1.032	3.95	.50	9.03	V.H.C.
	37	W. T. S. Tilley ..	1.035	3.52	.35	10.40	1st Prize.
	38	W. T. S. Tilley ..	1.036	3.60	.43	10.52	2nd Prize.
	39	J. Watts & Co. ..		(Absent.)			
	40	Yeoman Bros. ..	1.028	2.55	.55	8.11	
	41	Yeoman Bros. ..	1.020	4.30	.51	6.28	
	42	F. Ballard ..	1.026	3.75	.46	8.02	
	43	D. J. Crofts & Son	1.026	5.10	.45	8.56	R.
186	44	R. Johnson ..	1.026	2.56	.37	7.44	H.C.
	45	C. Osborn & Sons	1.015	5.05	.45	5.47	
	46	R. H. Ridler & Son	1.031	3.20	.35	9.05	1st Prize.
	47	T. Stone ..	1.032	3.80	.32	9.37	2nd Prize.
	48	W. T. S. Tilley ..	1.029	3.87	.30	9.40	3rd Prize.
	49	Yeoman Bros. ..	1.019	3.80	.56	5.61	
	50	E. A. Stead ..	1.009	4.90	.58	3.58	2nd Prize.
	51	R. Johnson ..	1.031	2.45	.44	7.98	1st Prize.
	52	R. H. Marfell ..	1.007	6.50	.53	3.74	
	53	W. Parry ..	1.002	6.10	.37	2.39	
187	54	Stead & Sons ..	1.002	5.95	.42	2.80	R.
	55	J. Taylor ..	1.002	6.50	.36	2.92	3rd Prize.
	56	J. W. Davies ..	1.016	5.50	.34	5.96	3rd Prize.
	57	E. A. Stead ..	1.016	5.30	.56	5.62	R.
	58	R. Johnson ..	1.031	2.80	.33	8.51	1st Prize.
	59	A. E. Jones ..	1.021	5.15	.38	6.82	2nd Prize.
	60	R. H. Marfell ..	1.006	7.95	.52	3.94	
	61	Stead & Sons ..	1.001	5.10	.47	1.97	
	62	J. W. Davies ..	1.023	3.65	.30	7.44	2nd Prize.
	63	R. Johnson ..	1.025	2.40	.36	7.61	1st Prize.
189	64	A. E. Jones ..	1.025	3.85	.45	7.37	3rd Prize.
	65	Stead & Sons ..	1.005	6.40	.56	3.58	R.

XVI.—THE SOCIETY'S NATURE STUDY EXHIBITION.

By H. M. Cundall, I.S.O., F.S.A., Steward.

It was decided, as in the two previous years, to confine the Exhibition to the county in which the Society's Meeting was to be held and to the neighbouring counties. Accordingly invitations were issued to the Educational bodies and residents in Monmouthshire, Glamorgan, Carmarthen, Cardigan, Pembroke, Brecon, Somerset, Wilts, Gloucester and Hereford. In the organisation of the Exhibition the Society was greatly assisted by the Newport Elementary Education Committee and the success of the Exhibition

was mainly due to their active support. Various examples of the results of instruction in Nature Study executed in twenty-seven Elementary and Evening Continuation Schools under their authority were contributed.

Considering the Exhibition as a whole the work submitted was very creditable; there was considerably less copying and more original work direct from nature than at previous exhibitions. More life histories were shown, plants, insects and some of the higher animal forms being treated in this manner, and meteorological phenomena, tides, etc., received attention.

GROUP A.—*Agricultural Colleges, &c.* There were no exhibits.

GROUP B.—*Elementary and Continuation Schools, &c.* Taking first the Newport Schools under consideration, the following may be specially mentioned for the high standard of work contributed:—

Intermediate School for Girls.—The live studies of beetles, newts, etc., were very good, as well as the series showing the germination of seeds.

St. Mary's Mixed School, Queen's Hill.—An excellent exhibit showing different phases of Nature Study and some good drawings.

Corporation Road Boys' School.—Very good pen and ink and pencil drawings from nature; the series illustrating the development of the frog was exceptionally well executed.

Corporation Road Girls' School.—The note-books showed evidence of good instruction, and the clay modelling in relief was well executed.

Alexandra Road Girls' School.—A good set of note-books, well illustrated by drawings from nature.

Durham Road Girls' School.—The flower studies and clay modelling were good.

St. Woollas Boys' School.—A well organised exhibit and a good scheme of work with excellent illustrations by both teachers and pupils. The collection of cones and of twigs showing buds were good, the lichens also were interesting, as illustrating an important branch of Nature Study not usually taken into consideration.

St. Woollas Girls' School.—An excellent collection of specimens.

Maindee Girls' School.—A well arranged exhibit.

Eveswell Boys' School.—The flower collections were good and the pen and ink work direct from nature was above the average.

Eveswell Girls' School.—A well arranged exhibit.

The works from the Infants' Schools at Corporation Road, Alexandra Road, Maindee, Spring Gardens and Barnardtown were good examples of elementary Nature Study.

Specimens of Manual Instruction and Woodwork, executed by pupils in Newport Elementary and Evening Continuation Schools,

under the South Wales and Monmouthshire Branch of Educational Handwork Association, were good in quality, but this subject hardly comes within the scope of Nature Study.

The Chippenham County School (Wilts), which showed such an excellent exhibit at Swindon last year, again contributed a fine set of works, dealing with life histories, a pond, a field, and a wood school-excursion. The tree photographs were very good and the cloud studies opened up an interesting department of study suitable for town as well as for county schools.

Barry District School, Holton Road.—The note-books were particularly good as records of the observations made by children. Drawings with brush and pencil were well done and a teacher's note-book by Miss Clarke was especially meritorious.

Trecwn Letterston Memorial Day School (Pembroke Education Authority).—A good set of life histories made by a scholar at a small rural school, and a fair exhibit of buds on twigs.

GROUP C—*Training Colleges, &c.*—The Hereford Training College and the Newport Yoerdan Training College contributed carefully selected examples of Nature Study.

Although there is evidence of more original work by the pupils being sent to the Society's Exhibition than formerly, yet the desirability of still more work direct from nature and less from copies of natural forms, is apparent. One piece of foliage or a twig drawn with sincerity and fidelity direct from nature has more genuine educational value than any number of imitations from copies published in books. In the former case a pupil sees and interprets nature for him or herself; in the latter he or she is simply copying with more or less accuracy observations made by others. One would like to see more contributions to the Exhibition of experiments on and records of growing plants, which should be made by the pupils themselves, and should not be the result of watching the teacher's experiment and copying the teacher's notes.

The Board of Education lent some interesting specimens of Nature Study executed in Japanese Schools, and photographs of Japanese Agricultural Schools; these were selected from a collection brought to this country by Baron Kikuchi (late Minister of Education in Japan and President of the Imperial University at Tokyo), for the purpose of illustrating the lectures delivered by him under the Martin White Foundation in the University of London. In compliance with a request from the Board the following schools under the Newport Education Committee, viz., Eveswell Boys' and Girls'; Alexandra Road Girls'; Durham

Road Girls' ; St. Mary's Mixed ; Maindee Girls' and the Yoerdan Training College contributed some of the specimens exhibited at the Society's Show to a Nature Study Exhibition held subsequently in Madras.

A large number of teachers availed themselves of the opportunities which were afforded to them by the Newport Education Committee to visit the Nature Study Exhibition ; they were encouraged by the Committee in every way to do so and were recommended to take the pupils of the upper standards with them. It is understood that these visits proved to be of distinct educational value, as it was possible for the teachers and pupils to see what work was being done in the different schools and what standard of attainment had been reached by each.

A meeting of teachers of Monmouthshire was held in the building and afterwards those attending it had the various exhibits explained to them.

The thanks of the Society are due for the very cordial assistance rendered by the Newport Elementary Education Committee and especially by the Secretary, Mr. John Hutchins, and the Assistant Secretary, Mr. T. Arthur Eaves.

I have personally to thank Mr. A. Taylor, a sub-Inspector of the Board of Education for the valuable notes with which he supplied me respecting the Exhibition.

XVII.—THE SOCIETY'S FORESTRY EXHIBITION.

By George Marshall.

Forestry has rapidly come to the front in recent years. Many landowners who were formerly content to let their woods run wild are now employing skilled foresters and are working their woodlands upon a sound commercial basis. In the olden days the uneducated woodman, if he planted at all, too often planted the wrong tree upon the wrong soil and in the wrong situation. In other cases, instead of using his own judgment, he was apt to give way to the keeper, and thus encouraged a swarm of rabbits which effectually prevented any proper forestry management or systematic work.

The attention bestowed upon the subject of late has resulted in a recognition of Forestry in Agricultural Showyards.

The first occasion upon which there was a Forestry Section at the Bath and West Society's Exhibition was at Swindon in 1906, when the interest manifested in it alike by landowners and the general public was more than sufficient to justify the new departure and to render its repetition desirable. Other societies have also made Forestry exhibitions a successful feature at their annual shows.

The Forestry section at the Society's Newport Show was not only excellent with respect to the number and character of the exhibits, but was most instructive. The exhibits were shown in eight classes, particulars of which and of the awards being as follows :—

CLASS 1.—*For a General Collection of Exhibits illustrative of Forestry.*

1st Prize (Gold Medal), THE DUKE OF WELLINGTON, K.G., Stratfieldsaye House, Mortimer, R.S.O. ; 2nd Prize (Silver Medal), MISS TALBOT, Margam Park, Glamorgan ; 3rd Prize (Bronze Medal), LADY SMYTH, Ashton Court Estate, Long Ashton, Bristol ; Reserve, EARL BEAUCHAMP, Madresfield Court, Malvern.

There were eight entries in Class 1, and the 1st Prize collection comprised the following exhibits :—Specimens, plants, etc., damaged by various causes, ditto with rootlets (good and bad transplanting) ; Seeds of various kinds of forest trees ; Cones and foliage of different kinds of conifers ; Photographs in connection with Forestry ; Home grown woods of various species ; Specimens showing bad and good pruning of ash, oak, larch, sycamore, etc., with dates when pruned ; Specimens of Larch, Scotch Fir, Ash, Oak, Sycamore, etc., from natural regeneration ; ditto, ditto, from nursery rows ; Specimens of Larch, showing treatment of Canker by cutting out and dressing with tar ; Specimens of Walking Sticks from Underwood damaged by Honeysuckle.

CLASS 2.—*For Boards of Scots Pine (Pinus sylvestris).*

1st Prize (Gold Medal), EARL OF CARNARVON, Highclere Castle, Newbury : age of tree 108 years. 2nd Prize (Silver Medal), EARL BATHURST, C.M.G., Cirencester Park, Gloucestershire. Reserve—MISS TALBOT, Margam Park, Glamorgan.

There were five entries in Class 2.

CLASS 3.—*For Boards of Larch (Larix europea).*

1st Prize (Gold Medal), EARL OF CARNARVON, Highclere Castle, Newbury : age of tree 75 years. 2nd Prize (Silver Medal), MISS TALBOT, Margam Park, Glamorgan. Reserve—EARL BATHURST, C.M.G., Cirencester Park, Gloucestershire.

There were five entries in Class 3.

CLASS 4.—*For Boards of Norway Spruce (Picea excelsa).*

1st Prize (Gold Medal), EARL OF CARNARVON, Highclere Castle, Newbury : age of tree 85 years. 2nd Prize (Silver Medal), DUKE OF WELLINGTON, K.G., Stratfieldsaye House, Mortimer, R.S.O. ; age of tree 70 years.

There were three entries in Class 4.

CLASS 5.—*For Boards of Ash (Fraxinus Excelsior), Oak (Quercus robur), and Elm (Ulmus Campestris).*

1st Prize (Gold Medal), DUKE OF WELLINGTON, K.G., Stratfieldsaye House, Mortimer, R.S.O.; age of tree 80 years. 2nd Prize (Silver Medal), EARL BEAUCHAMP, Madresfield Court, Malvern. Reserve—EARL CAWDOR, Golden Grove Estate, Carmarthenshire.

There were three entries in Class 5.

CLASS 6.—*For Boards of any three non-Coniferous Timbers other than the above.*

1st Prize (Gold Medal), DUKE OF WELLINGTON, K.G., Stratfieldsaye House, Mortimer, R.S.O.—Boards of Beech, age of tree 70 years; ditto Sycamore, age of tree 60 years; ditto Spanish Chestnut, age of tree 65 years. 2nd Prize (Silver Medal), EARL CAWDOR, Golden Grove Estate, Carmarthenshire—Boards of Beech, Sycamore and Lime.

There were two entries in Class 6.

CLASS 7.—*For a 9-Foot Field Gate, manufactured upon an estate from home-grown timber, shown in working order. The wood may have been dressed or creosoted, but not painted.*

1st Prize (Gold Medal), LADY SMYTH, Ashton Court Estate, Long Ashton, Bristol. 2nd Prize (Silver Medal), EARL OF CARNARVON, Highclere Castle, Newbury; dressed. Reserve—EARL OF CARNARVON; undressed.

There were six entries in Class 7.

CLASS 8.—*For Exhibits illustrative of Forestry contributed by Institutions or by Estates not desirous of entering in Competitive Classes.*

The exhibitors and exhibits in this class were as follows:—

MISS TALBOT, Margam Park, Glamorgan—Door, made from homegrown Scots Pine boards; Casement window, casement of Scots Pine and frame of Spanish Chestnut, both home grown; Forest Devil, or Chain Lever, used in the removal of logs of timber from boggy or bad situations; Specimens of Japanese Larch and European Larch, showing comparative growth.

COLONEL IVOE J. C. HERBERT, M.P., Llanarth Estate Office, Newport, Mon.—Two Cabinets of different specimens of Timber grown upon the Llanarth Estate; one plank of Wellingtonia, size 17ft. by 4ft. 3in.; one plank of Taxodium (*Distichum*), size 13ft. by 2ft.

The DUKE OF BEAUFORT, Wentwood Lodge, Usk, Mon.—A collection of European Larch plants from four to six years old, presumably injured by mice, chiefly growing amongst young oak coppice, where they have been planted at the rate of about 500 per acre, at a distance of 6ft. from the stools and 4ft. between the plants.

ROYAL BOTANIC GARDENS, KEW, SURREY—Specimens illustrating good and bad pruning and their results, and of diseases caused by insects, etc.

NATIONAL FRUIT AND CIDER INSTITUTE, Long Ashton, Bristol—Fruit trees in pots, various sizes and ages; Fruit trees in pots, grafted and budded; Seedling Apples and Pears at various ages; Specimens of wood, showing results of good and bad pruning; methods of grafting; Insect and fungoid pests, showing effect on branches; pruning tools; Spraying apparatus and spraying fluids; Bottled fruits and apparatus for bottling; Cider yeasts and bacteria; Bottled ciders. (Ciders exhibited in Cider Shed).

BOARD OF AGRICULTURE AND FISHERIES—Coloured Diagrams showing Diseases of Forest Trees, etc.

J. I. D. NICHOLL, Merthyr Mawr, Bridgend—Specimens of foliage from uncommon trees and shrubs.

There was also a Class for Forestry tools and appliances exhibited by trading firms, but it is to be regretted that there were no entries.

Miss Talbot's exhibits in Class 8 included some specimens of Japanese and European Larch, showing their comparative growth. The Japanese Larch had in all cases grown much more rapidly than the European variety. There were also some Larch shoots which grew from the burnt stems in a young plantation five years old after the area had been presumably destroyed by fire and the burnt stems cut off. The casement exhibited by Miss Talbot was particularly interesting, as it showed the possibility of using home-grown timbers in preference to foreign when the former are properly dried and worked.

With reference to the Duke of Beaufort's exhibit of Larch plants presumably injured by mice, it may be stated that a similar attack was made a year or two ago on Conifers planted on Crown land in the Alice Holt Forest, where oak timber had been clean felled. Several plans were adopted to stop these ravages but without success until an old woodman suggested the employment of the common mouse-trap, which proved most efficacious and cleared the plantation of the vermin.

The Forestry section created much interest, and attracted large numbers of visitors throughout the week. The exhibits were excellently arranged by the Society's Steward of the Department, Mr. Godfrey Lipscomb. Such exhibitions tend to stimulate the interest in Forestry, and are worthy of every encouragement.

XVIII.—THE NATIONAL FRUIT AND CIDER INSTITUTE.

1. *Report by B. T. P. Barker, M.A., Director.*
2. *Report by J. Ettle, F.R.H.S., Superintendent of Fruit Department.*

Report by B. T. P. Barker, M.A.

THE EXPERIMENTAL CIDER WORK.

The present Report contains for the most part an account of the work carried on at the Institute during the cider-making season of 1906-1907. The varieties of apples obtained for experimental purposes were the following :—

SHARP VARIETIES.—Ashton Egg Crabs, Ashton Long Pods, Backwell Red, Brice's Kernel, Cap of Liberty, Cowarne Red, Dufflin, Frederick, Kingston Black, Lambrook Pippin, Langworthy, Page's Yellow, Pople's Gutter, Skyrme's Kernel, Tom Putt, Yellow Styre.

SWEET VARIETIES.—Ansell, Ashton Brown Jersey, Bell, Crémère, Cluster Jersey, Davis' Favourite, Douce Amère, Frequin de Chartres, Greasy Redstreak, Loram's Sweet White, Muscadet, Noir de Vitry, Northwood, Sweet Alford, Symes' Sweet, Woodbine.

BITTER-SWEET VARIETIES.—Ashton Bitter White, Ashton Early Red Jersey, Ashton Russet Jersey, Ashton White, Cardive Forestier, Cherry Norman, Chisel Jersey, Counsellors, Dabinet, Frequin Rouge, Horners, Major, Master's Jersey, Médaille d'Or, Mons. Jacques, Prince Albert, Pytheres, Crofts' Redstreak, Royal Wilding, Strawberry Norman, White Norman, Yarlington Mill.

THE SINGLE-VARIETY CHARACTERS.—Cider was made, as in previous seasons, from each of these varieties separately, in order to ascertain the particular character of each individual variety for cider-making purposes, and to compare the behaviour of certain varieties in different seasons and from different soils, in those instances where the variety had been previously examined. Detailed accounts of these ciders will be published in the Annual Report of the Institute for 1907, which will be issued shortly.

The aims of these single-variety tests have been to ascertain in the first place what variety-characters are important for vintage purposes ; to determine the value of the varieties examined, and to see how far it varies in fruit grown under different conditions, and to select the most valuable kinds for propagation. The most important vintage characters have been stated in the second Annual Report, and subsequent experimental work has confirmed the earlier results.

With regard to one of those characters, viz., the characteristic flavour of the variety, after considerable experience with a large number of varieties, it may be stated that this factor is much more pronounced with sharp varieties than with sweet or bitter-sweet kinds. Most of the ciders made from sharp varieties are entirely distinct in flavour, although the general chemical composition of many of them is very similar. The difference is very well illustrated as being due to the "flavour of the acid," an apt, although probably incorrect, expression, used by some who have tasted the samples. The use of different kinds of sharp apples for blending, therefore, has a considerable effect upon the flavour of the cider, even though the percentage of acidity is brought to practically the same point in each blend.

Sweet and bitter-sweet varieties do not show for the most part such striking variations in flavour. There are generally perceptible differences in single-variety ciders made from each of these two classes of fruit, especially when the rate of fermentation is widely different in the respective cases; but, from a practical point of view, varieties belonging to these classes can usually be substituted for one another in blends without materially changing the flavour of the blend; provided that their composition, as regards acidity and tannin and their rates of fermentation, do not vary appreciably. Since the experimental work has now established the characters of apples of most importance for vintage purposes, and at the same time has provided a certain amount of data as to the fluctuations in these characters in the same variety grown under different conditions, it is now becoming possible to make progress with the task of ascertaining which varieties are worth keeping in cultivation, and which, as being of little or no value, may be allowed to die out. The cider-maker of the future will require to have the maximum amount of control over the nature and quality of his products; and with that end in view it is necessary to substitute a limited number of varieties of known character and of the highest quality for the existing host of varieties, the great majority of which are almost unknown, and of whose value for cider purposes there is complete ignorance. Possibly the number kept in cultivation might profitably be cut down to about fifty. At any rate, twice that number should furnish abundant choice to suit every requirement. The system which is being followed at the Institute is to select, from the varieties tested, a few of the most promising members of each of the required classes, viz., representatives of sharp, sweet and bitter-sweet kinds, including early, mid-season and late sorts

of each type. The selected varieties are being propagated in the nursery at the Institute, so that a number of trees of each kind may be available as soon as possible for further tests as to their suitability for different soils. These can be considered for the time being as sorts which are worthy of further propagation; although it is extremely likely in many instances, if not in every case, that a better acquaintance with some of the little known or unnamed varieties will lead to the discovery of superior kinds, which can then in turn be given the preference for cultivation. Details as to varieties, which can already be recommended for planting, may be obtained upon application to the Institute, and in most cases grafts or buds of these sorts can be supplied. Work upon these lines promises, in the course of a few years, to provide the cider grower with a selection of varieties which will not be inferior in any respect to the standard French sorts,—at present perhaps generally regarded as being the best in the world for cropping and for richness of juice,—and will probably be superior to these, from an English point of view, as regards the quality and flavour of the cider. Some of the best known varieties have proved to be worthy of their reputation; but, generally speaking, the majority of the well-known and widely grown kinds have been found to be somewhat disappointing, being deficient either in quality of flavour or richness. The most promising results have been met with among the little known and purely local varieties. As illustrations of the degree of richness of juice of certain varieties of this description the following examples, taken from last season's results, may be quoted, and will serve to show the possibilities of improvement of cider by careful selection of varieties by the grower:—

Name of Variety.	Specific Gravity of Juice.	Percentage Composition of Juice.		
		Total Sugar.	Malic Acid.	Tannin.
Butleigh No. XIV.	1.092	20.89	.20	.432
Duffin	1.072	15.41	.91	.198
Tanner's A.	1.077	17.19	.24	1.180
Yellow Styre	1.075	15.91	.49	.148
Pole-Carew's No. X.	1.089	19.56	.39	.374
Ashton No. 146	1.085	18.49	.63	.096
Do. No. 197	1.088	19.21	1.00	.150

These results may be better appreciated, when it is pointed out that the specific gravity of the juice from average quality varieties is 1.050—1.055, and the percentage of sugar 10—12.

EXPERIMENTS ON PRACTICAL METHODS.

In addition to the general work with single-variety ciders, experiments were carried out last season in connection with the storage of cider fruit; the blending of fruit or fresh juice as opposed to the blending of the ciders at a later stage; the influence of the type of mill and press used in grinding the fruit and expressing the juice; the immediate pressing of the pomace, as compared with the maceration for a length of time before pressing; methods of management of the fermenting cider; the influence of the size of the cask used for containing the fermenting liquor, and the general effect of aëration on the fermentation; the most suitable time at which to filter, and the possibility of improving ciders of poor quality; in addition to other work, which will be dealt with elsewhere.

THE STORAGE OF CIDER FRUIT.—Before considering the experiments on this subject, it is highly desirable to draw the attention in an emphatic manner of all interested in the culture and purchase of cider fruit to the extreme importance of the fruit being gathered, and stored, in the most careful manner. Although every endeavour has been made to obtain fruit in a sound and good condition for the purposes of the experimental work at the Institute, it has been sent by the growers in many cases in a most unsatisfactory state, the fruit being bruised, rotten, wet, of unequal ripeness, and otherwise in bad condition. In certain cases no one could expect to make even a passable cider from the fruit, in spite of its being first picked over carefully, all rotten and unsound fruit rejected, and the remainder well washed. In such samples the juice had a tainted flavour from the press, and no care in the after management could remedy this initial defect. Complaints of the same trouble have been repeatedly received from makers who depend for their supply of fruit mainly upon its purchase from the grower; and it is evident that there must be a very considerable annual loss to the industry as a whole, solely because the grower fails to exercise a reasonable amount of care in the gathering and consignment of the fruit. Probably an improvement in this matter could be effected if the larger purchasers were to take joint action and refuse to accept delivery of all fruit sent in bad condition, or, at the least, were to pay a reduced price for it. Those growers who regularly devote care and attention to the fruit would thus be more fairly treated, and others would be encouraged to follow their example.

The storage of fruit for cider-making purposes has not hitherto received much attention. The method adopted is usually

determined by the conveniences at the disposal of the maker. Those who grow their own fruit frequently allow it to fall from the trees as it ripens, and then gather it into heaps on the grass in the orchard, where it remains until the heap is large enough to make a cheese or until it is convenient to bring it to the press. It is also the custom of many makers who are obliged to purchase their fruit, to store it out of doors in heaps on grass until they can deal with it. Others prefer to store it under cover, usually in a loft. Others again, who have limited quantities to deal with, store it in the open in hurdle stores, which may or may not be covered to keep off rain. There appears to be no general agreement as to the best method of storage, although Continental authorities favour storage under cover, on the ground that the fruit remains drier and can mature under conditions of desiccation, thus tending to produce a higher specific gravity of the juice. The tests carried out at the Institute practically covered all the usual methods. The apples used for the purpose of the experiments were Chisel Jerseys and Lambrook Pippins, in the proportion of two-thirds of the former to one-third of the latter, the respective samples being all taken from the same original lots of fruit. The total quantity of fruit used in each case was half a ton.

In Experiment A the fruit was strewn upon grass in the orchard; which is equivalent to the method of allowing it to remain upon the ground as it falls from the trees.

In Experiment B it was placed in a heap upon the grass in the orchard.

In Experiment C it was placed in an uncovered hurdle store in the orchard, thus being exposed thoroughly to all kinds of weather although not liable to take up any earthy taint through lying upon damp soil.

In Experiment D it was placed in a covered hurdle store, thus exposed to a plentiful supply of air but shielded from rain.

In Experiment E it was stored in a heap in the apple loft, thus being under cover and perfectly dry although not exposed to such free currents of air as the lots stored out of doors.

The results showed that the condition of the fruit at the time of grinding, after four weeks storage—which took place during the month of December—was best in D, and least good in B, although there was not a serious difference between the two extreme cases. The yield of juice was appreciably better from the out-of-doors lots than from E; but the methods determining the yield of juice from a practical point of view were not sufficiently

delicate to allow of any conclusive decision as between A, B, C and D. The specific gravity of the juice in A was 1.0505; in B 1.0535; in C 1.0545; in D 1.0560; and in E 1.0545. The differences in the amounts of solid matter and sugar in the juice corresponded generally with the differences in the specific gravity; but the percentage of acidity was the same in each instance. In A, C, and E the amount of tannin was approximately the same; but in B it was decidedly below, and in D above, the average. The rates of fermentation of the juice did not vary to any appreciable extent, being slow in each case. The ciders were filtered about a month after pressing. They kept sweet and in good condition without much deposit in bottle, although the samples in cask turned sick in every instance towards the end of the following summer. The comparative merits of the respective ciders were not easy to determine. They possessed the same general character and, during the first half of the summer after being made, differed to a very slight extent in flavour. B was, perhaps, considered the best by the majority of those who tasted the samples; but probably the fact that it appeared to mature more quickly and was, therefore, more suited to drink sooner than the others had a great deal to do with the decision. At a later period, however, B was undoubtedly the poorest as regards flavour and general condition, its quality deteriorating considerably in bottle. D was at that stage slightly to be preferred to A and C, while E was a trifle inferior to these.

The weather during the course of the experiments was on the whole good and not very wet. Doubtless the results in another similar series of tests would vary somewhat, if the weather conditions were different. On the whole, the conclusion to be drawn appears to be that the method of storage has no serious influence on the quality of the product, provided that the fruit remains sound and the weather is not too wet or frosty for out-of-door storage. The deterioration in B may probably be attributed to the fact that the fruit did not keep so well as in the other cases. The best method seems to be D, where the fruit is in a free current of air and yet not exposed to rain or slight frosts, or liable to acquire any taint from the soil.

BLENDING.—It is the usual custom to blend the fruit and not the ciders; and there are many makers who fear to blend ciders during or after fermentation on account of possible disturbances of fermentation arising. Most makers have probably observed that renewed fermentations are sometimes started after mixing two ciders. The general opinion also seems to be that a better cider

results from the mixture of the fruit than from the blending of the ciders made from the same kinds of apples whose juices have been fermented separately. There are, however, several reasons why it is preferable to blend fermenting or fermented ciders rather than the fruit. For example, the kinds of apples and quantities of each available and fit for grinding at a particular time may not be such as would give a juice of suitable composition as regards contents of acid and tannin, *i.e.*, a palatable cider when fermented ; but this drawback could be overcome by blending at a later stage with the juice or cider from later ripening apples of the desired type. Two series of experiments were, therefore, carried out to determine, if possible, whether the blending of ciders did actually yield an inferior product. In the first Pytheres, a mild bitter-sweet variety, and Langworthy, a medium sharp variety, were used. The fruit of the two kinds was put through the mill separately and the quantity of juice from each lot measured. A full hogshead of each was allowed to ferment separately, and was then filtered, when the specific gravity had fallen to 1.030. Equal quantities of each, sufficient to give a full hogshead of the mixture, were then mixed together and the cask bunged down, sample bottles of the mixture being taken at the same time. In addition, equal quantities, direct from the press, of the fresh juice of each sort were mixed, the blend in this instance being practically equivalent to a mixture of the fruit in those proportions. A hogshead of this mixture was also allowed to ferment ; and was filtered, when the specific gravity reached 1.030. On comparing the ciders for flavour and general condition at different times during the following season, it was generally agreed that the better of the two was invariably the blend of the ciders mixed after fermentation ; although the difference in quality was not considerable, while in character they were essentially the same.

In the second series four varieties were blended, these being Horners, Cap of Liberty, Symes' Sweet and Loram's Sweet White. These were dealt with as in the preceding experiment. The result was similar, there being little actual differences between the two lots, but a slight superiority in quality in favour of the ciders blended after fermentation.

In neither case did any trouble arise through renewed fermentation after blending the fermented ciders. As it happened, the rates of fermentation of the respective juices were not widely different ; and hence there was little risk in blending at that stage. It is in cases when cider made from a rapidly fermenting juice is blended with a sweet cider made from a slowly fermenting juice that renewed fermentation is likely to set in.

Provided this precaution is observed, it is clear from the above experiments that, as regards flavour and condition of the product, blending done after fermentation is not inferior to blending fresh juice or mixing fruit; and that either method may be adopted without appreciable loss of quality to suit the maker's own convenience. If, for example, lots of fruit are fit to be made up, which, when mixed, yield a juice of satisfactory composition from the chemical point of view, the fruit can be blended directly and all possible trouble with renewed fermentations, owing to mixing at a later stage, can be avoided. If, on the other hand, the composition of the mixed juice does not prove suitable, it can be modified later by blending with a cider of the necessary character without much risk of troublesome after-fermentations, so long as mixtures of ciders with widely different rates of fermentation are avoided.

MILL TESTS.—The mills used for pulping cider fruit belong to two types. The commoner type is some form of the "crusher." The fruit in such machines is crushed by rollers into a mass of pulp, containing fragments of various sizes of the fruit, and may or may not have been roughly broken up before passing to the rollers. The other type, which is of more recent origin, and almost new to this country, is the "grater." In this case the fruit is pulped up into an exceedingly fine state of division by the action of a rapidly revolving drum, having slightly projecting steel teeth. The mill in use at the Institute is of this type. Since the ciders made at the Institute have frequently been noticed to possess a peculiar twang of bitterness and a less soft character than those made from similar fruit ground by "crusher" mills, it became a matter of importance to ascertain how far the type of mill influenced the nature of the product. By the kindness of Messrs. Osborn & Son, a cheese of Harry Masters apples was made with the use of their gun-metal crushing mill on the same date as a cheese of the same variety, taken from the same original lot of apples, was made up with the "grater" mill pomace. The juice, which was extracted from the crushed pomace with a hydraulic press, was at once forwarded by rail to the Institute, where it was kept and allowed to ferment under similar conditions to the juice from the "grated" pomace, expressed by a steam-power press. The ciders were afterwards treated exactly alike. The chemical composition of the fresh juice did not vary greatly as regards acidity, sugar content and specific gravity; but the amount of tannin in the "grater" juice was perceptibly higher than in the "crushed" juice, while the amount

of mucilage and pectic substances was only about two-thirds as great. There was also a decided difference in the taste of the juices, that from the "crushed" pomace being softer and not so bitter on the palate, thus confirming the differences noted in the chemical composition. The comparative merits of the ciders varied with age. Before midsummer the "crushed" sample was slightly superior to the other; but, later, the positions were gradually reversed, the softer and fuller flavour of the former in its early stages appearing by degrees to change, in the bottled samples, to a slightly unsound character and taste, by the side of which the latter appeared much cleaner to the palate. How far such changes were due to the greater percentage of mucilaginous substances and extractives is uncertain; but there is a certain amount of evidence available from this and other experiments, which seems to indicate that these substances may have an important influence.

Subsequent experiments of a similar nature were carried out at the Institute, the varieties used being Ansell, Dabinet and Pople's Gutter apples. The "crusher" mill used in these instances was a hand-mill, with iron arms to break the fruit roughly and stone rollers to crush it afterwards. The results with these confirmed those obtained with the Harry Masters variety.

It appears, therefore, that the kind of mill used has a decided influence upon the character of the product, the advantage on the whole remaining probably with the "grater" type on the ground of the larger yield of juice more than counterbalancing the slight inferiority in flavour during the spring and early summer.

MACERATION.—The experiments mentioned in last season's report as to the comparative merits of the system of allowing the pomace to stand for some hours before pressing, and that of pressing it immediately it comes from the mill, have been completed. The preliminary results there mentioned showed that the specific gravity was generally a fraction higher with the juice from the macerated pomace; that the juice was more easily expressed and the total yield usually rather greater; that the cider tended to clear itself more easily; and that the flavour was somewhat fuller and softer. Further research has shown that these conclusions were on the whole correct, but that the latter feature needs a certain degree of qualification. The flavour was undoubtedly fuller and softer, while the ciders were comparatively fresh; but, with advancing age, the quality deteriorated in the same manner as that just mentioned in connection with the ciders made from "crushed" pomace. A similar explanation may be offered, since macerated ciders contain more extractives than unmacerated. There is no evi-

dence forthcoming from these experiments to show that maceration yields an appreciably richer juice or cider. On that ground therefore the practice certainly does not appear to be justified: while the other advantages hardly outweigh, from a practical point of view, the inconvenience of the method, the greater tendency to deterioration of quality, and the risk of the pomace acquiring a taint through standing more or less exposed in the cider house for several hours.

THE CONTROL OF THE FERMENTING LIQUOR.—One of the most important practical points with which the maker has to deal is the management of the juice during fermentation and the checking or stopping of fermentation. The decision as to the proper time to rack or filter is made difficult by the fact that different ciders ferment at such widely different rates that a simple general rule only holds good in a limited number of cases. When it is recognised that, if fermentation is allowed to proceed until it comes to a standstill naturally, the very large majority of ciders would be absolutely dry, and that many would not cease fermenting or begin to clear until late spring or early summer, while many of those ciders might be made to retain some degree of sweetness, and be rendered perfectly bright and fit to drink in early spring by the use of a filter, the advantages of a filter are obvious. Its main advantage is the control which it gives over fermentation, either for bringing it to a standstill, or for checking it temporarily. The difficult problem is how to make it of most service; and, for this purpose, information as to the degree to which a fermenting cider would proceed naturally is required. Useful information may be deduced by keeping weekly records of the specific gravities of the ciders during the course of active fermentation. The extent of the fall in specific gravity from week to week shows whether the fermentation is likely to proceed until the cider is dry, or whether it may possibly cease before all the sweetness is lost, the fall being large in the former instance and small in the latter. Such information, however, can only be gained by this method while fermentation is actively proceeding; and in some cases it will not be available until too late to be of most value. In order, therefore, to learn as far and as soon as possible what course and rate the fermentation is likely to take, the following method has been evolved at the Institute and has proved of the utmost service. Small bottles, of about ten ounces capacity, are filled with samples of the fresh juices taken direct from the press, and are placed uncorked in an incubator, kept at a temperature of 80°—85° F, at which degree alcoholic fermentation proceeds most rapidly. The specific

gravity is taken daily until it ceases to fall. The total fall, divided by the number of days elapsing before the completion of fermentation, gives the average daily fall; which figure can be used to represent the comparative rate of fermentation and serves as an indication of the degree to which fermentation, if allowed to proceed unchecked, is likely to be carried in the cider in bulk in the cider house. For instance, some ciders show an average daily fall of ten or twelve or even twenty points, while others do not average more than two, three, or four points per day. The former are examples of rapidly fermenting juices and are suited only for the production of dry ciders; while the latter are slowly fermenting liquors and can be utilised, if desired, for the production of very sweet ciders. Definite information can be obtained by this method in less than a week; while a fortnight is sufficient to supply complete details in nearly every case. Thus a knowledge as to the nature of the fermentation of any cider can be obtained, even before that cider has begun to ferment in the cider house. A modification of the method can easily be adopted by any maker, since an incubator is not essential. If the sample bottles are set to stand in any fairly warm place, satisfactory results can be obtained, although the rate of fermentation will be slower; while it is a simple matter to concoct a passable substitute for an incubator, which will serve its purpose well.

With this preliminary knowledge of the rate of fermentation available, the necessary details for the management of the ciders can be arranged according to the principles stated in Leaflet No. III., issued by the Institute; and a measure of control exerted which has hitherto been wanting.

One of the greatest advantages to be gained from it is the possibility of preventing disorders liable to arise in mature sweet ciders. The latter belong to the class of very slowly fermenting juices, and are extremely susceptible to several disorders,—as an example of which cider sickness may be mentioned,—and it is due to the fact that normal alcoholic fermentation comes to practically a complete standstill at a very early stage, that such troubles are able to develop. When, therefore, it is found that certain juices are likely to ferment at an excessively slow rate, it is obviously the wisest plan to blend with them a certain proportion of a more rapidly fermenting juice, so that the rate of fermentation may be brought to a safer limit and the risk of future trouble avoided. Provided that the blend is made intelligently, it is easy to retain sweetness to a reasonable extent in the ciders and at the same time to fortify them against risk of such disorders.

THE INFLUENCE OF AERATION.—It is a well-established fact that air can exercise a considerable influence upon alcoholic fermentation on account of the stimulating effect of the oxygen which it contains upon the yeasts. Thus, it is a common practice for brewers to “rouse” their fermenting beers, so that the air may be brought more thoroughly into contact with the yeast and, consequently, the vigour of fermentation increased as a result of the increased multiplication of the ferments which follows. In the case of cider this influence appears at first sight as if it might be almost negligible, since the general aim of the maker is to expose the liquor as little as possible to the air, in order to avoid risk of acetification. Results quoted in last year’s Report, however, tended to show that the practice of keeving causes fermentation to begin sooner, and proceed more rapidly for a time, in a juice thus treated, than in the same kind of juice not keeved, on account of the increased surface of the liquor exposed to the air. Further experiments on this point have yielded similar results, and there can be no doubt now that fermentation is temporarily stimulated by keeving. These results also indicated that it might prove worth while to investigate the possible influence of air in this direction at other stages of the fermentation of cider. This was done, and several important facts have been noted in consequence.

For instance, it has been observed that an increased rate of fermentation frequently occurs after racking ciders which are still cloudy; whereas a reduction of the rate should be anticipated, since the object of racking is to check fermentation by the removal of the germs contained in the “grounds.” Obviously, therefore, every precaution should be taken, when racking, to expose the cider to air to a minimum extent during the operation; and, not only should the liquor be removed with as little disturbance as possible from the cask originally containing it, but also it should be run as gently as possible into the fresh cask.

A more striking effect of air has been noticed in connection with the casks themselves. When fresh juice, taken from the same original bulk, has been placed in casks of different sizes and allowed to ferment in them without disturbance, it has been found to be the rule that the smaller the cask, the more rapid has been the fermentation. The probable explanation is that the surface area of the cider in contact with the sides of the vessel, as compared with the total bulk of the liquor, is greater proportionately with small than with large casks; consequently the cider in the former case is more affected, bulk for bulk, by the air, which apparently reaches the contents to an

appreciable extent through the junctions of the staves of the cask, than in the latter case.

A very convincing demonstration of the influence of air in increasing the rate of fermentation was seen in some laboratory experiments. Several bottles of the same kind of fresh juice were placed in an incubator at 80° F. The bottles were very narrow mouthed and were filled half-way up the neck, so that the only exposed surface of the liquid was the small area of the mouth. Some of the bottles were left uncorked, so that air was able to reach the liquor in the neck of the bottle. The remainder were corked tightly, and through the cork in each bottle was passed a bent glass tube, opening under water. No air could get to the juice, although the gases given off during fermentation could escape. The specific gravity of the juice in the uncorked bottles fell from 1047 to 1011 in nine days, during which period the specific gravity in the other series fell only from 1047 to 1027. Considering how small a surface was exposed to the action of air in the former series, the results are remarkable, and show that even slight exposure to air is capable of producing marked effects on subsequent fermentation.

Those makers, therefore, who desire to reduce the rate of fermentation as far as possible, must endeavour to avoid any agitation of the juice or cider in contact with air and to prevent any avoidable access of air.

THE TIME OF FILTRATION.—The results, quoted in last season's Report, of certain experiments to determine the effect of filtration of the fresh juice as it came direct from the press, indicate that, as a general rule, filtration at that stage is of little practical service. Further experiments are in progress, to ascertain at what stage during the course of fermentation filtration can be done most economically and to most practical advantage. The subject requires a somewhat prolonged research, under widely different conditions, in order to yield conclusive results; but a certain number of statements may be made, which appear to be justified by the evidence at present available.

It is to be understood that the question is considerably affected by that of the type of cider which it is desired to produce. For instance, if a dry cider is required, there is little necessity to consider filtration until fermentation has almost ceased and the liquor is beginning to clear itself naturally. Indeed, it is by no means certain that filtration is desirable in such cases. On the other hand, to produce sweet ciders, filtration at a comparatively early stage in the course of fermentation is generally essential. The

matter has, therefore, been studied, not so much from the point of view of the production of a cider of any particular grade of sweetness or dryness as from that of ascertaining how early in the course of fermentation a cider may be filtered with practical advantage.

It has been clearly proved that this moment depends very largely upon the rate of fermentation. Juices which ferment rapidly cannot be dealt with successfully at such high specific gravities as those which ferment slowly; although actually, in point of time, they may be in fit condition for filtering sooner after making than the latter, on account of the quicker reduction of specific gravity by the more rapid fermentation. It has proved difficult to filter with any permanent advantage rapidly fermenting ciders at specific gravities higher than 1015—1020. About that point fermentation has in some cases been considerably checked and the liquor partially cleared. A second filtration was, however, usually necessary. Probably, in general, little advantage is gained in filtering such ciders at higher points of specific gravity than 1010—1015. Ciders fermenting at a moderate rate can usually be filtered satisfactorily at 1020—1025, a single filtration being all that is necessary in many instances. Slowly fermenting ciders can occasionally be filtered at specific gravities above 1040, especially if the acidity is moderately high; but the degree of sweetness thus attained is unnecessary for ordinary purposes and may render the cider very liable to "secondary" fermentations and other disorders. They may, however, generally be filtered with success at 1030—1035.

The most important conditions in determining the success of filtration appear to be (a) that the liquor must be in such a condition that it will pass through the filter with moderate ease and without unduly clogging it; (b) that it shall be in such a condition, that it will come from the filter in a clear state or, if cloudy, capable of being filtered perfectly bright by a second filtration; (c) that, once it has been filtered bright, it shall not be liable to become cloudy again or to throw too heavy a deposit. There can be no doubt that, as a general rule, each of these conditions requires that fermentation shall have proceeded to a certain point; and that if the cider is filtered before that point is reached, the result will probably be unsatisfactory. By filtering too early, apart from the difficulties of forcing the liquor through the filter and of obtaining it even in a slightly clear condition, it is frequently found to be impossible afterwards to filter it perfectly bright, a hazy appearance remaining. Possibly the mucilaginous and pectic substances present in the fresh juice may be responsible, fermentation not

having proceeded far enough at the time of filtration to complete the series of changes which they undergo. In this connection it is to be noted that sharp ciders appear to be more easily dealt with by filtration than ciders made from sweet or bitter-sweet apples.

THE IMPROVEMENT OF LOW QUALITY CIDERS.—A considerable proportion of the fruit used for vintage purposes each season is undoubtedly of very poor quality; and the resulting cider is correspondingly unsatisfactory. Makers have also regularly to deal with a certain amount of rough cider, which results from the residues after racking and various other odds and ends. In many instances ciders which remain unsold in the season after making, deteriorate considerably with age. Consequently, any method by which these low-grade ciders might be improved in quality, or rendered more marketable, deserves attention and calls for investigation.

Recently, a statement was made at the Institute by a visitor to the effect that ciders which were badly acetified and practically undrinkable were greatly improved by being poured over the discarded pomace of a freshly pressed cheese. Evidently they extracted a certain amount of the juice left in the pomace after pressing. There is always some juice so remaining, however effective and prolonged the pressure may have been. The amount is generally equivalent to 60—70 per cent. of the total weight of the pressed pomace and, unless small cider is made, this juice is to all intents and purposes wasted.

The idea that this waste juice might in a similar way prove useful in the amelioration of ciders of low quality led to a few experiments upon the subject last season, and these have been succeeded by more extensive researches during the current season. In the tests last season, the ciders dealt with were those made from mixed residues of various ciders after racking. Both in flavour and general character they were of poor quality, and were also of very low specific gravity. After the pomace from freshly milled fruit had been twice pressed, and would then in the ordinary course of events have been discarded as usual, it was instead roughly broken up and placed in a large wooden vat. The cider to be experimented upon was then pumped on to it, and both liquor and pomace were thoroughly mixed until the whole mass resembled fresh pomace as it comes direct from the mill. It was allowed to stand and soak for about eighteen hours and was then built up into a cheese and placed under the press. The liquor thus extracted was found to possess an entirely different character from that of the original cider. The specific

gravity was much higher and, therefore also, the percentages of solid matter and sugar. The flavour was profoundly modified, possessing a taste of fresh juice and having lost to a considerable extent its previous raw and harsh character. The re-soaked cider was allowed to stand for several days in a cask, in order to allow mucilaginous and other deposits to be thrown down. It was then filtered perfectly bright and placed in store casks. Afterwards there was little variation in its behaviour from that of ordinary freshly filtered cider. By this treatment its value may be said to have been raised at least 2d. per gallon.

It is clear that what actually takes place in the process is that the added cider is thoroughly absorbed by the pomace and thus becomes mixed with the 60 per cent. or so of fresh juice which it already contains. The expressed cider, therefore, consists of a mixture of the two, and their relative proportions are determined by the proportion of old cider added to a definite weight of pomace. In other words, the process simply consists in extracting the non-expressed juice by means of old cider, and although the finally pressed pomace after this treatment still contains about the same percentage of non-expressed liquid, this is no longer fresh juice, but largely old cider. Since the original unextracted juice had practically the same composition as that which was expressed as pure juice during the first pressings of the pomace, it is obvious that the composition of the liquor after re-soaking depends upon the amount of cider added. Thus the average results show that when the proportions used are one gallon of cider to 10 lbs. of pomace, the extracted cider shows a rise of 10—15 points in specific gravity, which is equivalent to a gain of 3—4 per cent. of sugar. The addition of lesser quantities of cider makes the rise in specific gravity and the percentage gain of sugar appreciably higher. An extreme case may be quoted in which ten gallons of old cider, with a specific gravity of 1.004 were added to about 200 lbs. of pomace and the specific gravity of the resulting extract was 1.044, which indicates an actual gain of at least 9 per cent. of sugar. These figures give some idea of the amount of valuable matter which is practically wasted by the cider maker, who discards his pomace after a second pressing.

An important point has been observed in all these experiments. The amount of re-soaked cider which is extracted is invariably greater than that which is added. There is thus a direct gain of liquor in addition to the improvement in quality; and this amount in itself far more than pays for the slight extra expense and trouble of the re-soaking.

The results of these experiments have already shown the great possibilities and value of the method above mentioned. The work now in progress is more particularly concerned with questions of detail, such as the most suitable proportions of cider and pomace and the best time for filtration. A fuller account of these will be published later.

FRUIT PESTS.

It is desired to draw attention to the great loss, due to the attacks of insect and fungoid pests upon fruit trees and fruits, annually suffered by fruit growers. The prevalence and widespread distribution of many of the more serious of these diseases have made this matter a very serious one for the grower, and have at the same time rendered isolated efforts to combat them of comparatively little avail on account of re-infection from neighbouring areas of infection. During the past few years these diseases have been the subject of much study and research at the various agricultural colleges and similar institutions throughout the country; and much useful information with regard to methods of dealing with the various disorders has been gained. Useful work has also been accomplished by Agricultural Education Committees in many counties in the direction of demonstrations of spraying and other combative measures and by the dissemination of information. The Board of Agriculture, in addition to its other efforts in this direction, has recently obtained considerable powers for dealing with serious outbreaks of disease. The time appears to be ripe, therefore, for organised attempts to eradicate or, at least, to check the spread of, these disorders. Such efforts will depend for their success very largely upon the interest and co-operation of individual fruit-growers; and it is equally important that not only those who grow fruit on a large scale, but also those who have a few orchards only, or a small amount of fruit in gardens, should co-operate in the work. In order to assist them as far as possible, the Institute will willingly give to any enquirer resident in the contributing counties information as to the nature of any diseases submitted to them and the approved methods of treatment. The recent establishment of a Department of Economic Biology at University College, Bristol, in which special attention is being devoted to questions of this nature, and in conjunction with which the Institute is working, has made it possible to take up this branch of work more thoroughly than hitherto. Investigations on certain diseases are now in progress, and the comparative efficiencies of various insecticidal and fungicidal spray fluids are being tested.

Numerous specimens were submitted for examination last year. insect pests including Woolly Aphis or American Blight, *Schizoneura lanigera*; the Black Currant Gall-mite, *Eriophyes ribis*; the Apple Sucker, *Psylla mali*; the Plum Aphis, *Aphis pruni*; the Pear Midge, *Diplosis pyrivora*; the Codling Moth, *Carpocapsa pomonella*; the Mussel Scale, *Mytilaspis pomorum*; the Apple Aphis, *Aphis mali*; the Pear Leaf Blister Mite, *Eriophyes pyri*; and the Gooseberry Sawfly, *Nematus ribesii*. Fungoid pests included Apple Canker, *Nectria ditissima*; Apple Scab, *Fusicladium den-driticum*; Pear Scab, *Fusicladium pirinum*; Apple Root-rot, *Agaricus melleus*; American Gooseberry Mildew, *Sphaerotheca mors-uveae*; Gooseberry Mildew, *Microsphaera grossulariae*; Apple Mildew, *Oidium farinosum*; Apple rot, *Monilia fructigena*; Strawberry Leaf-spot, *Sphaerella fragariae*; *Botrytis* sp. on Gooseberries, Red and Black Currants; Raspberry and Blackberry Anthracnose. *Glæosporium venetum*; *Glæosporium ribis* on Currants; *Glæosporium curvatum* on Black Currants; and Plum Rust, *Puccinia pruni*.

REPORT BY JOHN ETTLE, F.R.H.S.

THE ORCHARDS.

The "Hereford" trees in the young orchard have continued to grow satisfactorily, and several of them—Cowarne Red, Chisel Jersey, Knotted Kernel, Skyrme's Kernel and Medaille d'Or—have borne good crops of fruit in quantities sufficient for analysis. The Medaille d'Or carried such heavy crops that the branches had to be tied up to support them. In the deep red loam this variety has grown very well indeed besides being very prolific. Of the "Somersets" the row of Dabinets mentioned in the last report as being head grafted on about twenty different intermediate stems have nearly all borne crops of fruit, those grafted on Ecklinville, King of Pippins, Blenheim Orange, and Broad-leaf Jersey giving enough to analyse. The Oldfield Pears also gave a fairly good crop.

Measurements of the girths of all trees in this orchard were taken on a corresponding date to last year, the girths being taken at a height of 5ft. 6in. from the soil. The average increase in size is about one inch. Those trees which had the cultivated soil round them extended to a 4ft. 6in. radius have made appreciably more growth than those which were kept to the original 3ft., and the latter show more growth than those which were allowed to grass over. This, of course, was to be expected, but the experiment

has not shown such positive results as it would on trees planted in a poorer soil. It is probable that the trees, where the grass was allowed to grow round them, will be the better in a few years time as the growth is more sturdy and short jointed. The checking of the growth of stems of trees cut back for head grafting is shown on a batch of Broad-leaf Jerseys, a part of which were grafted in 1906 and the others left to produce their own fruit. The latter increased in girth about an inch and the former only from a quarter to a half inch. The influence of roots of elm trees on the growth of young trees is still very noticeable, as those near the elms are not more than half and in some cases only a quarter the size of similar varieties in other parts of the field.

The old orchard did not produce a good crop of fruit last season. About half the trees were pruned and the others left for demonstration purposes.

THE PLANTATIONS.

In plantation No. 1 (the first planted), most of the apples cropped fairly well, but a heavy hail storm in the middle of July almost entirely spoilt the fruit, especially such large and rather soft varieties as Suffields, Ecklinvilles and Grosvenors. Lane's Prince Albert bore well and being a harder apple was not so much bruised. Beauty of Bath and Worcester Pearmain of the dessert varieties also did well, but as a lot of the fruit was stolen no accurate record of weights produced could be made.

The scheme of experiments in pruning is being carried on, but measurements of growths, etc., have not yet been taken.

Aphides and *Fusicladium* have been very troublesome. The season being so wet, insecticides and fungicides had scarcely time to dry on, so that the next shower washed a good deal of them off.

The strawberries in this plantation fruited fairly well and were then rooted out. The wet weather and shade of the fruit trees did not improve them, but they served their purpose as a "catch" crop. The Raspberries, Red and White Currants and Gooseberries did very well, but the Black Currants were almost entirely spoilt by the fungus—*Glaeosporium curvatum*. There had been no experience of this pest in the district before, and as the leaves were slightly infested with aphides it was thought these were doing the injury. Just at the time the fruit was beginning to ripen and it was thought spraying might be deferred till it was gathered, but only a small portion ripened, the rest shrivelling up. All the trees have been burnt excepting a few which have been isolated for experimenting on. There will also be an opportunity for experimenting on "big bud."

The heaviest croppers in this plantation were Royal Sovereign Strawberry; Superlative Raspberry; Fay's Prolific Red, Carter's Champion Black, and White Dutch Currants respectively. The same number of bushes of White gave 30 lbs. more fruit than the red.

In plantation No. 2 the trees and bushes planted two years ago are all growing satisfactorily. An experiment with Strawberry plants taken from "first" and "second" runners respectively has been decidedly in favour of the firsts, which produced more than double the weight of fruit from the seconds. (The first and second mean the first from the parent plant, the second being the next produced on the same stem.) This experiment will be continued this year.

The other half acre in this plantation was planted last season with a collection of Plums, Pears, Raspberries, Red, White and Black Currants, with Strawberries in between.

THE NURSERY.

There will be a batch of several thousands of fine four years old trees of Perry Pears and Cider Apples ready next planting season for distributing to the County Councils supporting the Institute, so that they may form experimental orchards which may also be used for demonstration purposes. There is a great variation in the growth of different varieties, some making splendid stems without training, others doing not too well and having to be straightened by bamboo canes. This shows that the "Somerset" system, that is planting (in orchards) varieties which have good stems and heads to be afterwards re-grafted in the heads, is a good one for poor growing varieties.

The apples on the Paradise stock, mentioned on page 180 (last Journal) have been planted out 10ft. apart. They would have been planted last season but the land was foul with weeds, so it was fallowed. In the splendid weather in September a "Planet Junior" horse hoe was kept busy and the weeds were pretty well destroyed.

The greater part of another half acre has been planted as a nursery with seedling crab, seedling apple, seedling pear and paradise stocks.

XIX.—REPORT OF THE SOCIETY'S CONSULTING CHEMIST.

(*Dr. J. A. Voelcker, M.A., F.I.C., &c.*)

During 1907 seventeen samples were sent to me by members of the Society for analysis. This number compares with twenty-one submitted in 1906. In addition, twenty-two samples of milk were examined in connection with the Society's annual show at Newport, Mon. Of the seventeen samples—these being forwarded by six different members, nine were of water, three of compound manures, one of dissolved bones, one of lime, and three of feeding materials.

The dissolved bones sample was of good quality, giving total phosphates 32.8 per cent., and ammonia 2.81 per cent. The sample of lime was also of excellent quality, and was well burnt; it contained 94.24 per cent of lime, with only 1.29 per cent. of siliceous matter.

The three samples of Compound Manure were taken from different deliveries under one and the same contract, and the analyses showed that, as compared with the guarantee, there was an excess of phosphates, but some deficiency in ammonia, for which allowance was, on representation, duly made.

The three feeding materials analysed were Bran, Malt and Mixed Corn respectively. They were sent because of losses having occurred with lambs. All three foods, however, were found to be free from harmful ingredients and to be in good condition.

Of the nine samples of water, six were suitable drinking supplies, while two were distinctly polluted, the remaining sample showing contamination with zinc through action on galvanised iron pipes.

XX.—REPORT OF THE SOCIETY'S CONSULTING BOTANIST.

(*W. Carruthers, F.R.S.*)

Unless correspondents intimate that they are members of the Bath and West and Southern Counties Society I have not recorded them as belonging to the Society. During the past year only two applications were received from declared members of the Society. These referred to injuries to plants—one caused by a fungus, the other by an animal.

The recently-made lawn of a member was making satisfactory growth when it was attacked by the fungus (*Puccinia graminis*)

which causes rust and black mildew in wheat and other cereals. This is a minute parasite, the spores (seeds) of which germinate on the leaf or stem of the grass or cereal. In the first stage of its life, yellowish oval patches are produced on the leaves and stems; in this stage it is called rust. The spores are carried by the wind and spread the disease. In the progress of the disease the fungus produces dark brown to blackish patches consisting of another kind of spore. These are oblong and two-celled, and are protected by a strong outer wall sufficient to preserve the living contents from the wet and cold of winter; this stage is known as black mildew. In the spring these spores throw out a delicate stalk which bears one or more minute spores. These do not grow on grass or wheat, but find the host plant, in which they are to live, in the barberry. Carried by the wind they settle on the leaves of the barberry and gain an entrance into their interior. They live on the food of the leaves and exhibit their presence in yellow pustules. When the spores are ripe these pustules open and look like minute cups. These spores will not grow on the barberry but are carried by the wind to the cornfields or pastures, where they find for their next stage of life a suitable host. The fungus ramifies through the tissues of the leaf or stem and consumes the food that has been manufactured in the green tissues, thus starving and injuring the plants. The fungus then passes through four distinct stages in its life, and in each stage it produces different kinds of spores. It is no wonder that rust or mildew spreads with great rapidity when it makes its appearance in a field. The only point in the life history of this fungus at which it can be attacked is the stage when it lives on the barberry. It is not known to attack any other plants but our common and other cultivated barberries. These bushes should not be permitted to grow in shrubberies or hedges in places where cereal crops are cultivated, or indeed where pastures exist.

The animal injury was caused by a very minute worm, like that found in paste which has begun to decay. These creatures are called eel-worms. They enter in the very early stages of the wheat or oats and produce swellings, which are really galls. They prevent the lengthening of the stalk, and a swollen appearance of the stem and leaves is produced which has suggested the name "tulip root." The worms live inside the plant, and no external application that does not at the same time destroy the plant can reach them. The injury is usually in patches in the field, and the crop does not suffer seriously.

The Note-Book.

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Sterility in Mares and Cows.—The subject of sterility in both cattle and horses has occupied the attention of breeders for many years, and various devices have been employed to overcome it, says "H. L. P." in the *Agricultural Gazette*. These have met with marked success in the case of the equine race, but not in that of dairy cattle. In the latter case it seems to have been always considered due to some constitutional defect, which could only be effectually treated by the surgeon. There can be little doubt that this is often so; on the other hand, sterility occurs frequently when no such defects can be discovered. This subject is beginning to attract more attention, owing not only to the increased demand for milk and the difficulty of meeting it, but also to the apparently increasing prevalence of sterility. Like many other complaints, it would seem that the higher the standard of breeding the greater the tendency to this failing.

There are many cases in which sterility is due to the malformation of the genital organs in either male or female, and in these the difficulty is generally insuperable. There are others where the presence of tumours is at the bottom of the mischief, and proper treatment meets with complete success. But apart from these there are many instances of sterility in animals which are young, healthy, and well made, and hitherto very little has been done to remedy the evil.

Experiments lately undertaken in France would lead us to believe that a cure has been discovered for sterility. M. Moussu, professor of veterinary pathology at Alfort, has stated that cows which come regularly in season without being put in calf are often suffering from an affection of the vagina, which he calls contagious vaginitis. This complaint, being due to the action of a microbe, is capable of being spread by the bull, who contracts it himself and passes it on to every cow with which he comes in contact.

The complaint does not appear to produce any appreciable effect upon the health of the cow. There is sometimes an unusual flow of mucous from the vulva, and if the lips of this organ be parted numerous small excrescences may be observed of the size of a pin's head. It is supposed that the mucous secretion resulting from the disease has the property of destroying the sperm of the male, so that fecundation is impossible.

A remedy is said to have been discovered by the Professor. By introducing each week a cylinder of the size of a pencil, compounded of cocoa butter and ichtyol, into the interior of the diseased organ, a complete cure is effected within a month. Whether the results are or are not as certain as they are stated to be, it would be well worth while to try the remedy in all cases of ordinary sterility, for the discovery that this cure was successful would be of incalculable benefit to the agricultural community.

Mr. A. S. Alexander, of Wisconsin, also writing upon the same subject to the *Agricultural Gazette* says :—As I have no doubt that barrenness gives about as much trouble to the British breeder of live stock as it does to his American cousin, some notes on what has been accomplished here in the treatment of sterility of mares and cows may prove of interest and value.

With us the impregnating syringe is quite commonly used for the treatment of “shy breeding” mares, and those that have proved sterile, and the one ounce gelatine capsule has also been employed with a considerable degree of success with such animals. The impregnating syringe, while often quite successful in procuring conception has failed in many instances. Evidently there must be many conditions in which a medicine is more necessary than a mechanical help to conception, and one of these is that in which germs are present in the womb or where catarrhal concretions have occluded the mouth of the womb or rendered the mucus membranes of the entire generative organ unhealthy and therefore productive of a secretion deadly to the male sperm.

In some instances, acidity of the secretions bathing the lining membranes of the vagina and womb was deemed the possible cause of the trouble, and vaginal injections of a mild solution of bicarbonate of soda in water proved so effectual when used for some time prior to service and again immediately before the act that the theory has been proved correct. Yet there have been many failures where such a solution has been persistently applied, and many others where the secretions have not been found acid to litmus paper. Neither have injections of germicidal solutions always proved effectual in those cases where an abnormal discharge indicated an unhealthy state of the membranes, due to the presence of germs. In such cases, following apparent cure of the leucorrhœa (whites), sterility persisted, and neither artificial means nor medicines have brought about the desired condition of fecundity.

Recently, however, surprisingly good results have come from the use of yeast mixture in the treatment of barrenness of mares,

cows, and sows, this plan having succeeded in many instances where all other measures have failed.

The yeast mixture was first suggested in France, a notice of its use in barrenness of women, having been discovered in an old medical journal by Dr. Peters, of Nebraska, U.S.A., who mentioned the subject to some breeders, and so started experimentation with the mixture.

The yeast mixture is made as follows:—Mix to a paste with a little warm water, one cake of compressed yeast, and allow to stand in a moderately warm room for twelve hours; then stir in a pint and a half of luke-warm, distilled water (recently boiled will do), and allow to stand for a period of eight to twelve hours. The mixture will then be ready for use, and is to be injected into the vagina of the mare, cow, or sow after flushing out that passage with simple warm water. The mixture should be injected as soon as the animal is seen to be in heat; then she is to be bred when the period of heat is about past. This was the first advice given, but from experimentation we have somewhat altered the plan for chronic cases of barrenness. With these the mixture should be injected as soon as it is ready, and again when the animal is seen to be in season; the mouth of the womb first having been opened by hand or instrument if found tightly closed. Service then is to take place just before the period ceases, and, if the animal fails to conceive, the treatment is to be repeated at each period of heat until she is pregnant.

Nothing definite has been discovered as to the exact effect of the yeast mixture within the generative organs. At first it was thought that the yeast fungi (*saccharomyces*) not only destroy bacteria, but also might neutralise acids present in the secretions of the vagina and womb. But yeast fungi in proliferating cause the giving off of carbonic acid (carbonic dioxide). Apparently, then, where conception follows the use of yeast mixture, this acid may have been present, hence there must be some other action than that of neutralising acids in the secretions. As it is well known that sterility often follows abortion due to germs (present in contagious abortion), it may be that products of inflammation, due to germ irritation, occlude the passages of the Fallopian tubes and so prevent descent of the ova during oestrus (heat).

This is mere conjecture at present, but the treatment “works” in many instances, and that certainly is sufficient argument in its favour, although we do not wish to allege infallibility for the treatment. Where compressed yeast cannot be had, any form of yeast successfully used for the making of bread may be substituted with good effect.

Green Manuring.—In agricultural practice the principles of manuring are of infinite importance, and the farmer, if he is to be successful, must necessarily give them a great deal of consideration. In general it may be said that manuring is carried out in one of three ways; firstly, by means of farmyard manure used alone; secondly, by the use of artificial manures alone; or, thirdly, by a judicious combination of dung and artificials. Many substances are now used for manuring the land which were originally considered merely waste products, thus basic slag and sulphate of ammonia are waste or manufactured substances which are invaluable in connection with the growth of all kinds of crops. There is, however, another system of manuring, which has claimed increased attention of late years, and which might well be more widely practised, not only on the farm and in the garden, but in orchards, and it may be even in relation to forest trees. We refer to the system of green manuring.

Green manuring consists in growing certain classes of green crops, notably members of the *Leguminosae*, and ploughing them under. The system is especially valuable in the case of poor, light soils, but may also be useful on other soils. The organic matter supplied enriches the soil in humus, so retaining the moisture which falls as rain, while the decaying plant supplies a considerable amount of food—especially nitrogen—for the use of the succeeding crop. The subject of green manuring has been investigated in almost all parts of the world. By Schultz, who may almost be termed the father of the system, and others in Germany, at the Canadian experimental farms, at centres in the United States of America, at Woburn, in New South Wales, in Belgium, Holland and elsewhere. To give a complete summary of the work done in relation to green manuring would require a volume, but some idea as to its value may usefully be given for the benefit of those who may desire to give the method a trial.

At the outset it should be noted that green manuring is especially valuable—(1) in enriching and ameliorating light soils; (2) for manuring land situated at outlying points on the farm, to which carting of farmyard dung would be expensive; (3) as a cover crop for land in lieu of bare fallowing. In the case of outlying fields, artificials may be employed in conjunction with the green manure. Before passing to a consideration of certain experiments, it may serve a useful purpose if we recall a statement from the late Dr. Fream's "Elements of Agriculture." He says, "Green manuring is a simple way of improving a soil that is deficient in organic matter or humus. . . . Leguminous crops possess an additional

advantage, in that they collect from the air not only carbon, by means of their leaves, but also nitrogen, through the medium of the nodules on their roots. Such crops, therefore, may serve as sources of nitrogen to the soil."

Instead of digging or ploughing in weeds and other green material, many persons gather it into heaps and burn it, thereby driving off most of the valuable constituents and destroying the physical properties of the material. Manurial constituents, especially nitrogen, and humus are therefore lost. An article in the *Times* lately directed attention to the value of weeds, including their manurial value. Those who number amongst their friends and acquaintances a few suburban or even country gardeners, and who are watchful, will observe that whereas dung may or may not be regularly employed to feed the garden, weeds, pea and bean haulms, waste greenstuffs, etc., instead of being dug in are almost always burnt. Yet such "waste" material could be employed with profit as a direct manure. We believe that, amongst *those who know* and who are aware of the value of such greenstuff as a manure, there are some who object to its use in this way because it serves to attract and support wireworms, leather-jackets, and other insect pests, and our experience indicates that there is some reason in this objection. But it may be pointed out that such an objection may be overcome, for with the aid of soil, turf, dead leaves, etc., and lime, greenstuff may be converted into an excellent compost for garden use, or even, where the "waste" is plentiful for application in field cultivation.

In Canada experiments have been carried out for many years at the experiment farms. Certain plots received no farmyard manure for ten or eleven years, and became much depleted of humus. In 1899 10 lb. of red clover seed was sown per acre on the wheat, barley, and oat crops, and the resulting thick mat of foliage was ploughed under in October, after the removal of the corn crops. Artificials were discontinued in 1900, and the same crops have since been taken for several years without other fertilisers than clover, which has been sown with the grain crop, and subsequently ploughed under. So far from the soil losing in fertility, the crops have in many instances been increased. Even on two plots which received dung until 1898 the yield of barley as late as 1903 was 41.5 and 37 bushels on the two plots, compared with an average of 35 bushels for the preceding fourteen years. Further, on unmanured plots on which wheat, barley, and oats had been grown for ten or eleven years, averaging respectively yields of 10.2

bushels, 13·6 bushels, and 30·5 bushels, green manuring with clover resulted in an average increase for five years of 40 per cent., 20 per cent., and 31 per cent., respectively.

The famous experiments conducted at Lupitz, in Saxony, by M. Schultz, over a period of forty years, clearly demonstrated the value of green manuring for the improvement of light, sandy soils. Leguminous plants, chiefly lupins, were grown in alternation with cereals, potatoes, etc., on the whole of a six hundred acre estate, lime, potash and phosphates being used in addition. The result was a wonderful success, M. Schultz writing in 1891 as follows :— “ With a limited stock of fattening cattle, without buying any nitrogenous manures, by adding potash, phosphoric acid, and lime. I have succeeded in fixing, at the expense of the atmosphere, a considerable quantity of nitrogen, by which I have been enabled to diminish by 50 per cent. the expense of the production of cereals grown at Lupitz ; or, which comes to the same thing, to raise the average profit to 30s. per acre, notwithstanding the unfavourable state of the markets.”

Where green manuring is to be employed as a substitute for farmyard manure, the plants to be ploughed in should be leguminous—peas, beans, vetches, clovers, lupins and serradella, the last being much used in Germany. Percival says that white melilot (*Melilotus alba*), or Bokhara clover, which rapidly becomes hard and woody, and owing to its bitter taste is refused by cattle, may be found of service in ploughing in as a green manure. Writing of lupins he says :—“ Many sandy districts on the Continent which were practically valueless have been very materially improved in fertility by the utilisation of these plants as ‘green manure.’” On light land in Germany, Dr. Schnider states that the vetch, lupins, peas and serradella are chiefly employed, while peas, vetches, clovers and horse beans are used on medium land. These, he says, may be sown on stubble as an intermediate crop, or with corn, or on land which would otherwise lie fallow. This suggestion is worthy of consideration, for while bare fallowing is unlikely entirely to disappear, the system is not so common as formerly, and a covering crop which will serve a manurial purpose is well worth the taking. In connection with green manuring *v.* bare fallowing, Fruwirth showed, by experiments conducted in 1901 and 1902 at Hohenheim, that there was a net gain of 6s. per acre in mangels with green manuring, compared with bare fallow, the extra weight of mangels due to the green manuring being 2½ tons, valued at 26s. Deducting 20s., the cost of the green manuring, left the net gain of 6s. per acre.

Experiments conducted at Lauchstadt in 1903, and previously, showed that green manuring with peas, beans and vetches after barley, gave good results with beets, but was less effective with potatoes. As regards the depth the green crop should be ploughed under, Schultz believed it should be completely buried. Others, however, among whom Causemann and Dr. Hiltner, of Munich, may be numbered, hold that experience has shown shallow covering of both green and farmyard manure to be the more satisfactory method. This is said to be due to the fact that, the material, being near the surface, is more readily rendered available by the oxygen of the air. In addition, it is considered that the ploughing-in should be done late, rather than early in the autumn, winter grain being sown directly the ploughing is over. Possibly with such treatment the fertilising ingredients of the green manure are rendered available at the time they are most in demand by the newly-sown crop.

The influence of green manuring on medium and heavy soils has been discussed by Dr. Scheidewind; tares and peas have given good results in the Government orchards of New South Wales; at the Hawkesbury Agricultural College (N.S. Wales) excellent fruit crops have been obtained in pure sand by means of green manuring; green manuring in relation to forest trees has been dealt with by Dr. Schwappach, of Eberswalde, while publications of the United States Department of Agriculture also deal with the question. Several very useful articles on the subject have appeared at various dates in the *Journal of the Board of Agriculture*.

No doubt many prefer to grow a crop which may bring in a direct return, in place of one which must occupy the soil for a time only to be ploughed under. Be that as it may—and every method has its advocates as well as its opponents—it has been conclusively shown that in very many instances green manuring is an invaluable means of improving the soil. And when a quick-growing catch crop can be taken—*e.g.*, white mustard, sown in July or August and ploughed in during October or November—or it is intended to bare fallow, or the last growth of summer on a clover lay can be ploughed under, or on outlying land to which manure carting would be expensive, or where the land is very light or poor in humus, a judicious application of artificials combined with the practice of green manuring may prove of immense value.

“ALFALFA” in *Agricultural Gazette*.

Brewers' Grains as a Food for Stock.—The use of brewers' grains for live stock is generally confined to the feeding of dairy cattle.

In town dairies, and in dairy farms in the neighbourhood of towns. they are the principal food given to the milch cows. As is well known, brewers' grains are a bye-product obtained in the manufacture of beer. The starch in the barley grains is converted into sugar by means of a ferment called diastase, and this sugar, which is soluble, is extracted during the mashing process. The residue is what we term brewers' grains, and contains almost all the proteids or albuminoids originally present in the barley, as these, owing to their insolubility, are not extracted during the mashing process. Brewers' grains are thus relatively much richer in albuminoids than barley, as the chief loss which the latter has suffered during the malting process is of carbohydrates—i.e., starch.

An average sample of wet brewers' grains contains about the following food constituents :—

Water	..	..	..	..	77	per cent.
Albuminoids	..	..	..	..	5	" "
Fats	..	..	..	..	$\frac{1}{4}$	" "
Carbohydrates	..	..	..	..	10 $\frac{1}{2}$	" "
Fibre	..	..	..	..	6	" "
Ash	..	..	..	..	1	" "

How much more nitrogenous a food grains are than barley may be seen from the fact that in grains the ratio between digestible nitrogenous matter and digestible carbohydrates plus fats is as 1 to 3, whereas in barley it is only as 1 to 8.

Various samples of grains vary more or less in the percentage of food constituents, and some are both actually and relatively richer in albuminoids than others. The above analysis shows that wet grains are a very watery food and that the dry matter in them is very rich in nitrogen; both these facts make them an excellent food for dairy cows, with a beneficial influence on the yield of milk. Food which contains a large amount of water notoriously stimulates the milk yield—provided a sufficiency of the various nutrients required by a milch cow be supplied at the same time—and a plentiful supply of albuminoids also has a very beneficial effect on the flow of milk. It must, however, be borne in mind that wet grains are by no means a concentrated food, but, on the contrary, contain a very large amount of water (about 77 per cent.), as much water, in fact, as red clover or grass. We cannot, therefore, compare wet grain with barley for instance, which is quite another class of foodstuff. One bushel of wet grain weighs approximately 40 lbs.; of these, only 9 lbs. are actual food, the other 31 lbs. being water. Grains are very palatable to cows, who eat them with great relish, when once they are accustomed to them. When given to cows not used to being fed on grains, they should

at first be given only in small quantities, which may gradually be increased; this is certainly a much better plan than suddenly giving the maximum ration to a cow not used to grains, as is often done. So long as grains are fresh and sweet and not given in too large quantities, their use does not cause any ill effect. When, however, they have undergone fermentation and become sour, they cause scouring and otherwise act injuriously both on the milk yield and the health of the cow, and, if given in too large quantities, the cows may eventually refuse to eat them altogether. The usual ration varies from half a bushel to one bushel per day per cow. It is advisable to mix some oat straw or hay chaff with the grains, while maize meal may also with advantage be mixed therewith.

In order to keep grains fresh and sweet for some time and prevent them from going sour, they must be so stored that access of air is as much as possible prevented; this is achieved by storing them in brick silos built above ground or in pits dug in the earth, and treading them down very firmly. If properly stored, they will keep for some time; if not, they soon ferment and become sour. There are two kinds of grains; one obtained in the brewing of ale, the other in that of porter. The former are lighter in colour and of better quality than the latter, and their price is higher.

Wet grains are sold by the quarter, the price varying at different breweries, and also depending on the season, there being summer and winter prices; the winter prices are higher owing to the larger demand for grains at that season of the year. They are purchased either direct from the breweries, or they are bought in large quantities by grain merchants, who sell them to the dairy farmers. Wet grains are specially suited as a food for milking cows, but they can also be used to feed fattening bullocks, though they would hardly be economical unless obtained very cheaply. In Germany they are frequently used with good results for fattening beasts.

We come now to consider dried or desiccated brewers' grains, which are obtained by treating wet grains with hot air and so drying them. They are an entirely different class of foodstuff to wet grains, being a concentrated food. Their average composition is about as follows:—

Water	..	..	..	..	12 per cent.
Albuminoids	..	..	..	..	18 " "
Fats	..	..	..	..	7 " "
Carbohydrates	..	..	..	..	48 " "
Fibre	..	..	..	..	10 " "
Ash	..	..	..	..	4 " "

In maize and barley the percentage of total albuminoids is 10 and 11 per cent. respectively ; from which it will be seen that dried grains are much richer in albuminoids than either of these two foodstuffs ; they are, in fact, a highly nitrogenous food. Like wet grains, they form a very suitable food for milch cows, being palatable and having a very beneficial effect on the flow of milk. We cannot, however, compare the two foods any more than we can compare, for instance, oats and mangels, as they belong to quite different classes of foodstuffs, oats and dry grains being concentrated foods, while wet grains and mangels are not. The average ration of dried grains per day for a cow in milk varies from 3 lbs. to 6 lbs., this latter quantity containing as much albuminoids as would be present in 10 lbs. of oats.

In cases where maize is given to dairy cows, it would be a very useful and economical plan to give a certain quantity of dried grains at the same time. Maize is a starchy food, comparatively poor in nitrogenous matter. By giving dried grains, which are rich in this valuable food constituent, the lack of it in the maize is to some extent compensated for, and, a more balanced food being obtained, we feed more economically. In using maize we must bear in mind that it is a starchy food, and that in order to make the most of it and feed most economically, we should give at the same time some food especially rich in albuminoids, such as cake, beans, or dried grains.

Dried grains may be soaked in water before giving them to cows, in which case they will be similar to wet grains ; if this practice be followed, they should be soaked only immediately before giving them, otherwise they will turn sour. Dried grains will keep for a long time. They are as portable as any other concentrated food stuff, and their use is on this account not as restricted as that of wet grains, which, owing to their bulkiness and the large amount of water they contain, are an inconvenient and expensive food to carry any distance. Whereas wet grains are restricted chiefly to the feeding of dairy cows, dried grains form a suitable food for other kinds of stock also. They can with advantage be given to calves or young stock, in quantities of 2lbs. to 3 lbs. per day, and are a more economical food than, for instance, oats ; first, because, as a rule, the price for equal quantities of the two foodstuffs is much in favour of dried grains, and secondly, because they are much richer in nitrogenous matter.

Dried grains are also a good and cheap food for draught horses, and on the Continent they are not infrequently used for feeding farm horses, being given in quantities of from 3 lbs. to 4 lbs. per

day, instead of the same amount of oats. They may also with advantage be given to foals and young horses, the quantity to give per day being about 2 lbs. per head. As already pointed out, they are a much cheaper food than oats, and where it is intended to give some kind of concentrated food to foals and horses, it might be advisable to give dried grains a trial, if oats are objected to on the score of expense.

Experiments made on the Continent as to the value of dried grains for feeding fattening sheep have proved very satisfactory, the sheep readily eating and doing well on them. The quantity to give per day is about 1 lb. per head. Dried grains are also sometimes fed to pigs on the Continent, but experiments have shown that they are not so well digested by pigs as by ruminants and horses.

On the Continent, dried grains are far more extensively employed by farmers for feeding live stock than in this country, and their value as a nitrogenous food is much better understood. They are certainly a useful and, in comparison with other artificial feeding stuffs, an economical concentrated food, and there is no doubt that by their judicious use the farmer might often feed more economically and to greater advantage than he does at present.—“H.F.” in *Agricultural Gazette*.

Milk Records : What they have done and what they may do.

—Mr. John Speir, Newton, lecturing on this subject, recently said :—I believe that in the Ayrshire we have one of the best cows in the world for the cheap production of milk. For hardiness of constitution, and production of milk, butter and cheese, compared with the food consumed, the Ayrshire will be very difficult to beat. Some of our showyard friends say that they do not want their best cows to yield too much milk, as this very soon gives the udder a broken-down appearance. Like the razors that were made to sell, not to shave, these cows were bred to sell and not to give milk. Great complaints are often made by foreign buyers and others that animals which they have bought and which had taken prizes, have turned out poor milkers. The principal function of a cow is to give milk; even if she has never been able to do that satisfactorily, she is only of third-class importance as a producer of meat. Many specimens of the breed milk well, but, unfortunately, others do not, and the reputation of the breed as a whole suffers for the sins of the few. If these few were getting fewer there would be little to regret, but many fear that they are increasing instead of decreasing in numbers. The success of the

breeder depends on the well-known proverb that "like begets like." It is that tendency which makes pedigree so valuable, and it is pedigree that has enabled the U.S.A. to produce a bull recently sold by public auction for £1,600, from a cow which gave 1,900 gallons of milk in one lactation. With the beef breeds and with horses every point aimed at by the breeder is of value in the production of meat or work, but few will say that many of the points sought after in the Ayrshire help in the production of milk. All the points looked for in a Clydesdale enable it to draw a heavier load, for a greater number of years, than if they did not exist. So with the Trotter and Thoroughbred, each has qualities which, although different from the Clydesdale, yet enable them to do their work better and longer than they otherwise would.

That rule, however, does not apply to the showyard Ayrshire. The good points of a dairy cow of any breed are much the same all the world over. Some other breeds give as much or more milk than the Ayrshire, while one at least gives richer milk, yet their breeders have no liking for vessels tight behind, and positively abhor a small, hard, cork-shaped teat. If the Ayrshire is to have the world-wide reputation we wish her to have, and which she is slowly attaining, then all having the interests of the breed at heart must get rid of their fads and fancies and settle themselves down to consider actual facts.

While a few from the first have foreseen the value of reliable and methodically-kept milk records, the bulk of breeders have given the matter very little consideration. Their ideas will grow. Among dairy cattle there is no characteristic so strongly hereditary, unless it be kicking those who annoy them, as that of the ability to produce milk. Some families have it developed in an extraordinary degree, while in others the tendency is very feeble indeed. A good example of what a cow can be bred to do, and as showing the class of cows which should be bred from, is found in the unpedigreed Shorthorn cow Daisy, No. 37 at the recent Dairy Show in London. This cow had quite a good back and body, but her udder was not at all up to showyard ideas. In the inspection class she was placed third, and in the milking trials first. This cow is seven years old, and had calved in August, and six weeks afterwards she gave, roughly speaking, six gallons of milk in twenty-four hours. This milk contained 5.84 per cent of fat in the morning and 6.9 per cent. in the evening, and from it was produced a trifle over 4 lbs. of butter. The peculiarity of this cow is that she gave as much milk as the best of the Holland cows, while at the same time

it was as rich in fat as that of a Jersey. Another notable animal is the Freisian cow, Boutsje, belonging to the Guelph Agricultural College. She completed her year last month, when it was found that the total yield for 365 days was 20,778 lbs. of milk, with 3.5 per cent. of fat, which equals a yield of 781.9 lbs. of butter fat, and allowing a sixth extra for water, etc., equals 912.2 lbs. butter. She gave 96 lbs. of milk in twenty-four hours when at her maximum yield. Another instance is that of one of the red cows of Denmark, which for fifteen years has had an average yield of 1,400 gallons of milk per annum, which is something over six tons of milk a year. This cow gave milk of fair average quality, and several of her offspring seem as if they would equal—if not excel—their mother's yield. The value of these cows as milk producers would never have been known if they had not been tested, although each is as good as three ordinary cows. There are few herds that have not some good cows, but in most there are cows which never pay for their keep. These latter are what the Yankees call "lodgers," and they are lodgers of the very worst class, as they live on the best and then leave without paying the landlady. A person with a few cows, which the owner or his family milk, might have a pretty fair idea which gives the greatest quantity of milk, though in the majority of cases he does not even know that, but he has no opportunity of comparing the milk of one cow with that of another in regard to its percentage of fat. The only way to find out whether a cow is a profitable one or not is to keep a regular account of what she produces and what it costs to keep her. This can most economically be done by means of milk record societies. I will give you a case in point. In the Gaupen Milk Record Society of twelve herds, each 1 lb. of butter which was produced during the first year of its existence cost 8d. per lb. for food alone, while now it is produced for between 4½d. and 4¾d. Milk records enable the breeder who reads them aright to increase his profit in two ways—(1) By increasing his production; (2) by decreasing his expenses. Let us see what has been done in increasing production in well-authenticated instances, and how far this has been contributed to by the force of heredity. When the late Mr. Tisdall, of Holland Park, began farming, he bought twelve of the best heifers he could find, and he bred from the best of these for twenty-five years, during which period each cow's milk was regularly weighed all the time. His average for the best twelve heifers in his possession during his occupancy of Holland Park was as follows:—For the first year, 450 gallons; for the tenth year,

600 gallons; for the twentieth year, 868 gallons. Lord Rayleigh, the eminent scientist, has had a large number of farms in Essex in his own hands for from fifteen to twenty years. Under his brother's superintendence these have all been managed as dairy farms. The cows were all bought in at first, and many were found to yield under 400 gallons. The minimum desired was 600 gallons, and cows not coming up to that standard were disposed of. Each cow's milk is weighed one day per week. The best cows are bred from, and all the farms now rear their own stock. For some years, the minimum has been 700 gallons and after this year it is to be 800 gallons. One cow, named *Captive*, gave 1,700 gallons for several years, and another, *Rachel II.*, gave 1,000 gallons for many years. Mr. John Evens, of Burton, Lincoln, began to weigh the milk of each cow in March, 1885, and has continued to do so twice daily ever since. He sells his milk in Lincoln. In 1890 and 1891 the average number of cows in milk was thirty-three, which had an average yield of 729 gallons for these years. For 1904 and 1905 he had an average of forty-eight cows, which gave 828 gallons; but if the same number is taken at the end as at the beginning—viz., thirty-three—he had in 1905 thirty-three cows which gave an average of 923½ gallons. The average yield of his cows in 1885, after five years weeding, was 729 gallons, sixteen years afterwards it was 124½ gallons more. In 1905 three cows averaged 1,286 gallons of milk.

In 1905 there were 15 heifers in the herd, which ranged in yield from 515 to 811 gallons of milk after the first calf, the period in milk generally extending from 280 to 290 days.

A cow, *Beauty*, after her third calf gave 2,051 gallons of milk in eighty-one weeks, and after her fourth calf 1,622 gallons in fifty-two weeks. A bull out of this cow was sire of sixteen heifers. These, after their first calf, yielded from 600 to 965 gallons of milk and after their second and third calves from 700 to 1,030 gallons per annum. Like many others, Mr. Evens believes that in breeding for milk "the bull is half the herd," and unless bulls are selected from heavy milking cows, which have been mated with bulls of a similar class, little success need be expected in breeding.

Mr. Marshall, Riding Mill, Newcastle-on-Tyne, has regularly weighed the milk of each of his cows for a very long period, during which he has been breeding from his best milkers the milk yield clearly showing that the heavy milk-producing qualities of the dam have descended to most of the offspring.

In the Newton Rigg Herd, at Penrith, belonging to the Cumberland and Westmoreland County Council, two pedigree

bulls were used in succession. One of these was considered a good animal, and was ultimately sold at a big price. His offspring were good-looking heifers, but half of them were utter failures as milkers, while none of the others were as good as their dams. The other bull was out of a cow which had a good milk record for several years. Almost without exception every heifer begotten by him became an excellent milker. Four of the cows served by the first bull had heifer calves, and when served by the second one had heifers also. All the first heifers gave excessively small yields of milk—so small, in fact, that most of them were fattened and sold ; yet their half-sisters, sired by Major Moss, gave good yields. The effect of the use of the first of these two bulls on this herd is identical with what has happened in thousands of instances among Ayrshire breeders, but, instead of the damage being limited to one year it has often extended to two or three, and sometimes to four years.

The foregoing are a few of many instances which might be cited of the effect of heredity in increasing the quantity of milk. But pedigree exercises its influence not only to produce a large quantity, but also a small quantity. When bulls from cows the milking capacities of which are very feeble, are used for stock purposes no one need wonder that many of the offspring turn out useless for dairy purposes.

The first society to keep milk records on a co-operative basis was that of Vejen. Their average per cow for twelve herds for the first two years was 670 gallons, the average for the eighth year being 730 gallons—an increase of 60 gallons per cow all round. This, at 8d. per gallon, would be an increase of 40s. per cow. Some of the herds showed very much greater increases than that, one in eight years rising from 477 gallons to 880 gallons ; another from 574 gallons to 836 gallons ; and a third from 617 gallons to 867 gallons. These three herds had, therefore, an average increase of 265 gallons per cow in eight years. A farmer in Sweden, who prided himself on having an extra good milking herd joined one of the milk record associations in 1897, and during the first year his herd of seventy had an average of 800 gallons of milk. He sold off forty-two of his worst milking cows, and kept twenty-eight of the very best, which he mated with a bull out of a known heavy-milking cow. In 1905 he had again a herd of seventy-two cows, all descended from these twenty-eight selected animals, which gave an average of 1,220 gallons in that year.

The present Show method has been in existence for about a

hundred years. It seems, however, from writings made 115 years ago that the Ayrshire was then giving very much the same quantity of milk as it gives to-day. It would appear, therefore, that, so far as milking is concerned, the Show method, as at present conducted, has not improved that function of the animal one whit, and many believe it has deteriorated under the system. The Milk Record Society of Vallakra found during the first year of its existence the average per cent. of fat in the milk was 3.09, while in its sixth year the average had increased to 3.21 per cent. of fat, notwithstanding that the quantity of milk was 31 per cent. greater than it was six years previously. Most people who keep cows know that, feed them as uniformly as they like, there will be great differences in their yield of milk and butter. Food is a necessity of life, but it is not everything. Pedigree is of far greater importance than food in the production of milk or butter. It has been argued that the large yield of some herds compared with others is entirely the result of extra feeding. Estimates of the foods used in the herds of the milk record societies since this work began in Scotland clearly show that the heaviest milking herds, at least during the winter months, when the food is under control, are not those which consume most. In the spring months, a good milking herd will produce a gallon of milk at an expenditure on food of all kinds of from 3d. to 4d. per gallon, while an indifferent one will require from 5d. to 6d. What is true of the herds becomes more pronounced in the individual cows, and the milk records show a considerable number of animals which have never paid for the food they have consumed. Good cows, either for quantity or quality, must be bred; they cannot be produced by simply giving the average cow an extra quantity of food. There is not the shadow of a doubt as to the superiority of the milk record method of selecting cows over the inspection one, as has been abundantly proved by its success wherever given a reasonable trial. Co-operative milk records, like everything under the sun, are not absolutely free of risk of error, but what I claim for them is that, when the milk is weighed and tested every two or three weeks, and when the work is done by a neutral person, they are more reliable and are carried out at much less cost than by any other method yet suggested. Milk records so conducted have the further advantage of impressing a stranger more forcibly when carried out by a neutral person, under the supervision of a committee, than where the work is done by the owner of the cows. That in itself is no small advantage which should not be lost sight of. The principle of the work is correct, and the work itself is on the right lines; if it is faulty in details,

let not only those who are in favour of the work, but also those who are against it, obliterate the faults and retain what is good. In the world there are many things faulty, but reformers do not give up in disgust on that account and say that life is a failure.

Some argue that, if milk records are to be slavishly followed, all beauty of form will disappear and the symmetrical body which has been the result of generations of careful breeding may become actually ugly. The cows of Denmark, Holland, and Canada, which have been tested for years, show no symptoms of such a tendency. I venture to predict that, in the near future, cows having good milk records will bring prices hitherto unheard of and even undreamt of. A necessary corollary of milk records is a Herd-Book containing full details of all the best animals. A fairly high standard should be fixed for both quality and quantity, without which no entry should be received. Even pure descendants of registered animals should not be accepted unless and until they come up to the standard. An important point in registration is identification, without which registration loses half its value. It should be so arranged that a strange buyer (home breeder or foreigner) should, without doubt or difficulty, be able to identify any animal as being the progeny of another, or the one bearing a certain number in the Herd-Book. Breeders should so conduct their business that a suspicious buyer is left no room for doubt. With that end in view, I would suggest that, when a cow has been entered in the Herd-Book or any appendix of it, notice of all her calvings, with markings of the calves, should be sent to the secretary within two weeks ; if not, double or treble entry money should be charged, and entry refused after a limited period. The Freisian Herd-Book Society allow only fourteen days, and they provide each member with blank outlines of the right and left side of a calf on which the breeder must put all the distinctive markings of the calf. There should be no difficulty in putting identification beyond all dispute, and I am certain the expense would be repaid a hundred-fold, more especially if the yield of milk and percentage of fat were given for each animal as far back as it was available. The Freisian Cattle Herd-Book compels notice of service of all registered sires and dams within six months, and this rule should be adopted. Another rule of the Freisian Herd-Book is that all registered sires of fourteen months old, and heifers after they have had a calf, should gain by inspection seventy out of 100 points allowed for the perfect animal. The Freisian Cattle Herd-Book recently issued a pamphlet giving particulars of the breed, and in it the following occurs :—" The association called the ' Freisian Herd-

Book' was established in the year 1879. The object was and has always been to make the Herd-Book a register for selected cattle answering the most stringent outside requirements. Even pure-bred descendants of registered animals are not accepted for registration unless their outside requirements are satisfactory. For this reason the Herd-Book will always contain only a small part of the total number of cattle. It has always been, and will, as we hope, always remain, a choice book, in which only those animals are entered which answer the most stringent requirements." With reasonable care and attention in the future, milk records should increase in favour with breeders, exhibitors and, especially, foreign buyers, and should require little support from outside sources.—*The Scottish Farmer*.

Tuberculosis in Cattle.—Almost every country in the world coming to Britain for cattle to improve their herds have regulations dealing with tuberculosis, under which all animals entering their ports are subjected to what is known as "the tuberculin test." The Argentine, by far the best customer during past years, takes most drastic measures, which mean slaughtering without compensation all cattle that react under the test.

Such being the case, it would seem necessary that breeders should give the subject of the test more careful consideration than has hitherto been accorded to it.

That the tuberculin test is by no means infallible is fully acknowledged by the veterinary profession, and it is well known that if an animal is very badly affected with tuberculosis no reaction may take place. On the other hand, there may be well-defined reaction when, upon post-mortem inspection, the assistance of a powerful microscope is needed to find any trace whatever of tuberculosis in any membrane of the subject. The uncertainty of the test, even when carefully conducted by qualified professional men, may have operated against a more general belief of its assistance to breeders in their efforts to get quit of tuberculosis in their herds, while at the same time there can be no doubt that the unprofessional way in which many tests have been applied has had much to do with the disbelief in its efficacy on the part of many owners of herds.

If, however, the test can be of assistance to breeders in finding out whether or not any of the animals in their herds are affected with tuberculosis, it stands to reason that prejudice ought to be set aside and every advantage taken of such assistance as the test may afford.

No one can question the desirability of every effort being made to eradicate a disease which, if not deadly, is believed by many to affect the health of the people of the country.

If there were any truth in the theory that infection is spread through milk, as it comes from the cow, few human beings could have escaped contracting tuberculosis. Again, when we consider the case of country children fed largely on milk, and contrast their physical conditions with those less fortunate youngsters who get little of it, the theory of the cow being responsible for the spread of infection would seem a far-fetched one. The manner in which milk is often exposed in atmospheres teeming with disease before and during its distribution amongst consumers in our populous centres must, in justice to the cow, receive more attention from those who are laudably engaged in fighting a disease which claims so many victims.

Tuberculosis is present in too many herds of cattle, and this being the case, there is every reason why breeders ought to grapple with it, and, if possible, eradicate it from their herds. If we look back only a few years we can remember when the belief was firmly held that the disease was purely a hereditary one. Now, however, we are assured by professional men that such is not the case; and we are told that few, if any, calves the produce of tuberculous parents are born with the slightest symptoms of the disease, and that if calves from diseased parents are reared in a healthy atmosphere, suckled by cows that have not reacted under the test, it may with confidence be assumed that they will grow into strong and healthy animals. The following system of management by which a number of breeders have been able to eradicate disease from their herds without loss, and at small expense and trouble, may be of interest.

Having become acquainted with and made careful notes of the normal temperature of their animals, they subject them to the tuberculine test. Those animals that react are drawn away from the others and placed, if possible, in a separate building. Disinfectants are freely used in all buildings, especially on the mangers, hay-racks and walls in front of the standings. Immediately a calf is dropped by a cow that has reacted, it is removed from the infected house and put to a non-reacting foster mother. By carefully doing this it has been found that a healthy race of youngsters can be reared.

Breeders who have given attention to the matter affirm that the disease is by no means so infectious as many are inclined to suppose, and that there is practically little risk of one animal infecting

another while feeding together in an open pasture. The risks are, however, great when animals are shut up together breathing the same atmosphere, laden, it may be with the germs of disease. Consequently, ventilation, disinfection and separation of cattle confined indoors are the keynotes of those who have successfully grappled with the disease in their herds. Instances could be given of herds in which the disease was known to exist, but after a very few years of careful attention the owners have been able confidently to assert that not one reacting animal could be found.

It may be said that it would be quite impossible on many farms to provide accommodation to carry out the system of separation indicated, few holdings being provided with the necessary buildings. To meet such cases where healthy and reacting animals have to remain under one roof, Continental breeders have devised a simple and effective plan for isolating the reacting animals by a partition to separate the healthy from the reacting animals.

It must be acknowledged that one of the great difficulties connected with the tuberculine test is that it is not a discriminating one, in other words, when an animal reacts, we are entirely in the dark as to whether the reaction indicates a serious case or not. The fact that reaction takes place may be taken as a warning that isolation and disinfection should at once be practised.

We frequently hear of cases where animals have reacted, and in the course of a month or two, when again under the test, have been passed as sound. Those that have had sufficient experience and are satisfied regarding the value of the test are inclined to say that the operation may have been conducted in an unprofessional manner, or when animals were not in a condition to warrant the test being made. Without being satisfied that the temperature record is a normal one before applying the test, little dependence can be placed upon the result. A change of place or companionship, change of diet, or anything calculated to excite the animal or upset the digestive organs, may render the test abortive. In the case of females, one has to be most careful to avoid applying the test during several days before and after the animals have been in season.

Granted that there are many difficulties, and that much has still to be learned, one can, with a certain amount of confidence, look upon the test as being of valuable assistance in eradicating tuberculosis.—ROBERT BRUCE in *Live Stock Journal Almanac*.

Fat Lamb Production.—There is a sad lack of enterprise among many farmers anent fat lamb production. Too often little is

thought about it until the ewes have lambed and the lambs have begun to frame, so to say. Then, if a few plump youngsters can be picked out for the butchers, they are sold to make a little "ready," and there is the end on't, or hardly the end either, for most likely some of the best ewe lambs—as they are always the plumpest—are sold though they are just the subjects that should have been kept on to improve and shore up the breeding flock.

To produce good fat lamb, it is needful to begin with the ewes—to nourish them as soon, or even before, the foetus within begins to quicken. In truth, if there has been aught in the way of flushing them while with the ram, that thriving condition ought not to be checked through any fault of the shepherd not providing good victuals, although every experienced flockmaster knows that, in spite of reasonably generous treatment, the heavy-sided ewe is sure to sink in flesh a little, or at least cease to thrive, towards the end of her days of pregnancy.

The flock breeding fat lambs should be kept on the best pasture, be given a wide run at that, and be reasonably well provided with trough food, while a few roots should be thrown on to the sward towards the dead of winter. I am a strong advocate for oats by way of corn, after having used them for many years. They are digestible, non-heating, toothsome and filling. In fact, while they go to some extent in place of hay, they save ewes much craving for the sappy blades of grass, which are all too sparsely spread over even the best swards in some seasons. Linseed cake and decorticated cotton cake mixed may answer very well where oats are out of the way, but they are not so cheap nor quite so natural and wholesome as oats. Then the handful per head of quite sweet and unheated hay should always be supplied daily, while lastly, but not of least importance, flocks should be spread on undisturbed lands.

The advantages of good feeding are four-fold. First; other things being equal, it ensures the ewes yeanning down with full bags of milk, which is a *sine qua non* for making prime fat lambs. So sure as your lamb goes short of milk in its early days it never makes a ripe carcase as a lamb, whatever it may do if kept on as a sheep. It begins to run to wool early, gets "raw," as we farmers say, on the back, big in the belly, and begins to take solid food, being driven thereto by hunger, long before it ought to, and accordingly suffers dreadfully from indigestion. How men err and waste their labour in trying to hurry their lambs to take solid food. The young ovine for a reasonable time thrives best solely on mother's milk, but the milk must be in the fount when sought for, else harsher food is necessarily taken.

Secondly; by keeping up the pregnant ewe's condition, she yeans down with that freshness and heartiness which carries her through—enables her to suckle her lambs well and to cut a respectable figure when she has done it. He who would breed fat lambs for profit must bear in mind that the despatch of the youngsters is not the end of the game, but the disposal of the dams effects the closure.

Thirdly; there is the wool. Unless your ewes give a good clip at shear day, sucklers though they be, they fail on the right side of the balance sheet, and no ewes will give a decent clip that are not in good condition at lambing time, for wool needs well supporting; else there are "cots," that is, tight fleeces, and perhaps "peeled" parts where there is no coat at all.

Fourthly; though it is rarely thought of, suckling ewes and their young growing lambs draw more hardly on the pasture and fruitfulness of the soil, or, to put it in another way, enrich the ground less than dry sheep grazing thereon. Wherefore, to keep the land well up to the mark, the ewes must be trough-fed. So 'tis obvious that some of those farmers, with the right sort of land, who are not satisfied with fat lamb breeding, might if they conducted the management of the ewes aright before the yeaning as well as after, have another tale to tell.

It may be asked—How do the Dorsetshire farmers manage anent provisioning all winter long, to arrange for their ewes to begin to yeane at Michaelmas and onward? Well, these farmers are past-masters at fat lamb production, just as their ewes are the best nurses among ovines. Again, their climate is genial and well qualified to grow early forage crops and other useful herbage. A rare crop of roots is ready as soon as the young lambs begin to nibble, and almost the latter's first food will be chits from the roots which very likely have never been raised and clamped. The Dorset breeder provides troughs for the ewes, and troughs apart for the lambs in a forward run, and believes in peas and oats, with a wee bit of best linseed cake as good for both. So he gets his reward in fat lambs ready in quantity, by, or soon after, the time when people on colder land are drawing their ewes to the yeaning yard.

But this plan would never do on the average of the colder lands in the centre midlands. I have tried it there—but only once. Warm soil and a warm latitude win half the battle, for comfort the lambs must have, and the other half is accomplished by having succulent food ready early enough. Ewes cannot do without that, for if fed wholly or mainly on dry diet their milk goes off like dew in the sun.

There is a lot of crossing for fat lambs all along the south-west and southern counties. In Devonshire the farmers go two ways for rams for their big long wool races of ewes. In the northern districts the hardy compact Exmoor sires are popular, while in the south of the county the Hampshire ram is found to answer. I fancy both races of ewes would pay well if mated with Dorset rams. In Somerset the latter rams are in favour to a considerable extent, though both Exmoor and Hampshire sires are also adopted. Yet in Somerset the big Devon ewes are mostly grazed. There is not much crossing in Dorsetshire, for apparently the sterling native Horns can hardly be beaten. Passing on to Hampshire, about as good fat lambs and about as profitable as are sent to market are bred by using Dorset rams for the native black-faced ewes. An immense number of good fat lambs are produced from the pure Hampshires. Pretty little carcasses the South Down fat lambs have, and their only fault is that there is not quite enough of them. Crossing is not so popular among the South Downs as among other flocks mentioned.

Among all these south country breeds and cross-breeds considerable forcing is practised, for one good reason, to bring the lambs to market, as far as may be, before grass lamb comes in after midsummer. The forcing food consists largely of roots, forage crops, early "seeds," early grass, supplemented with such nutritious and inviting trough food as crushed oats, wheaten or barley meal, pea meal, maize meal and cakes, and as time goes on and the lambs get strong the corn needs only breaking, not reducing to meal. The farmer naturally adopts food according to what he has in his rickyard, and as a rule, the sooner the carcasses are disposed of when they arrive at 40 lbs. each, dressed weight, the better.—
J. WALKER in *Farmer and Stockbreeder Year Book*.

Agricultural Research.—Mr. J. F. Mason, M.P. for Windsor, delivered an address on the above subject at the Glasgow and West of Scotland Agricultural Discussion Society, in which he said:—My first public reference to this question was during the debate on the Address in the House of Commons at the beginning of last Session. I drew attention to the necessity which exists for further research—and State-aided research—into such of the causes of agricultural depression as are due to Nature, or rather to our continued ignorance of Nature. I received a sympathetic reply from the Government, and when, shortly afterwards, a Commission was appointed to inquire into agricultural education, I was offered, and accepted, a seat upon it. Finding that research was not to be

included in the terms of reference I deemed it impossible to remain associated with so truncated an investigation, and reluctantly withdrew. I have since had the satisfaction of hearing that nearly all the witnesses who have appeared before that Commission have insisted that research is an important—if not the most important—factor in the future of technical education in matters agricultural. No form of research has ever yet been sufficiently encouraged by the State, but there are special reasons why agriculture in particular should be thus aided. (1) "Agriculture is (or till recently was) the greatest of British industries." (2) There is a clamant cry of "back to the land." (3) Small holders stand in greater need of guidance than big farmers, who are able to look after themselves. (4) By introducing plants and animals to new surroundings and fresh habitats, man exposes them to new dangers, and these dangers must be met on the threshold by intelligent scientific anticipation.

The depopulation of our rural districts is a national peril and a tragedy. To arrest this, small holdings are encouraged as a panacea, while Government proposes to spend public money on them. But the creation of small holdings alone does not get at the root of the evil. You must make agriculture a paying industry. To do this you have to reduce the cost of production, and you must effect savings. Research is worth spending money on just as much as the establishment of small holdings, and is a necessary auxiliary to them because as just mentioned, small holders will require more advice and assistance than big farmers. In this country we are too easily satisfied on the score of knowledge. We base education on too narrow a foundation. We attempt to solve the most intricate problems in simple fashion. We cry, "Back to the land." We inaugurate small holdings and rest satisfied that nothing further is necessary to effect our purpose. In some industries adequate research is carried on, because those industries are in few and rich hands, who can afford to pay for it, and also because the patenting of valuable discoveries is easier. In agriculture it is otherwise. The function of agricultural research is to obtain in every possible way knowledge bearing upon the growth, health and nutrition of the plant and the animal. You cannot be sure beforehand of making the knowledge pay, but unless you possess the knowledge you cannot overcome the difficulties which so constantly arise in practical farming. I will begin with some remarks on the diseases of plants and animals. Every year the growers of the finer crops spend large sums of money and lose still larger sums in combating insect and fungoid attack.

For example, I find that, on a certain hop farm, £8 5s. 2d. per acre was spent in 1906 in such work, and this year's expenditure will be about the same. Now, there are about 48,000 acres under hops in England. If other hop farmers do the same, this would involve an expenditure of close on £400,000 a year. In many other cases remedies like the above have not been discovered. For instance, the "big bud disease" has almost wiped out black currant growing in its chief stronghold in Kent, and is rapidly crippling it all over the country. The cucumber leaf spot disease destroyed two-thirds of the crop for several seasons in most of the nurseries in Lea Valley, Kent, Worthing, &c. There is no quick mode of finding a cure for these diseases. They require careful investigation on an adequate and practical scale. The plan at present in vogue in this country of getting this or that man of science to give advice on the strength of a single specimen results merely in discrediting the name of science, because his advice is frequently based on insufficient knowledge and research. As to apple tree mildew, which is very prevalent, and is one of those pests likely to accompany apple trees to every part of the globe, the difficulty in the way of tackling the disease is that it is not yet ascertained whether insects assist in distributing the spores of the fungus, or aid its attack in any other way. Now this is a point which should undoubtedly be capable of settlement by means of proper research. To another form of mildew that of the American gooseberry, which has recently broken out in Warwickshire, the fruits of previous research are to be applied, with, we will hope, beneficial results. "Cherry leaf scorch" in the orchards of Kent during the last fifteen years has threatened to make cherry orchards a thing of the past in "the garden of England." The long-continued prevalence of this evil obviously makes it inadvisable that growers should be content merely to wait and hope, and hope and wait, for more favourable seasons. Something had to be done, and the experience of the Continent, founded on research, was levied in aid. The systematic collection and burning of the diseased leaves in all the orchards in the affected area was recommended, and, wherever the advice was taken, there ensued an immediate cessation of the trouble. All will agree that a cure for clover sickness would prove of immense value to every farmer in the kingdom. These are only illustrations.

What enormous savings might have been effected for agriculture if research were carried to a successful conclusion. In Great Britain we slaughter over 1,000 swine per month on account of swine fever. Anthrax, glanders and sheep

scab each add their quota to the tale of waste. On swine fever alone we spend close on £12,000 a year. Greater knowledge might enable us to stop the whole of this drain of money and waste of food. Research becomes more and more important as facilities have increased for transferring animals and plants from one part of the world to another. They frequently introduce diseases into their new habitats from which they themselves, although able to carry the germs of disease, are practically immune, through having been for generations subjected to the same disease or parasite. *Phylloxera*, which almost devastated the vineyards of Europe, had no effect on the American vines, by the importation of which it was introduced, with the result that to-day Europe has to be replanted with American vines at huge expense. Is it not conceivable that science might discover a cure which in America has been produced by natural evolution? The tsetse fly, which poisons horses and cattle in many districts of Africa to such an alarming extent, has been found not to create the poison but merely to carry a living organism, which sets up the fever, to healthy from infectious animals, themselves often so far immune as to suffer little from the disease although it becomes fatal in other animals. The common rat is particularly liable to absorbing the germ of tubercle, but exposure thereto for generations appears to have rendered him immune to its effects, and he frequently continues apparently healthy in a highly tuberculous condition. Another instance is measles, which, has at last become comparatively harmless to Europeans, although it is a deadly scourge to savages to whom it had been previously unknown. This immunity of Nature to its habitual enemies has, through ages of evolution, been a wonderful safeguard to plants and animals. Now, by importing animals and plants into new surroundings to which they are not accustomed, we run greater and greater risks of disastrous epidemics unless science provides us with remedies as quickly as we bring about these diseases of importation. That science can do this, if time and brains enough are devoted to the subject, is shown by the discovery of antitoxins. One familiar instance is vaccination: another is a recently discovered cure for snake bites; another the cure for strangles in young horses, now practised with so much success in Italy. If man continues to meddle with Nature, as we now do to so great a degree, and at the same time neglects to insure his position by scientific safeguards against the incidental evils he brings about, I fear that he will be accumulating untold trouble for the future generations of his race.

As to the food of plants and animals, there is a great field for

effecting savings in both. The food of animals may be said to be roughly divided into albuminoids, or nitrogenous foods, and carbohydrates. An animal under given conditions needs certain proportions of these two classes of food to meet its requirements. If the animal receives an excess of one class over the other, it will be found that that excess goes to waste. In the feeding of cattle, farmers have, by a rule of thumb practice, discovered, with a wonderful degree of success, how to get these proportions; but if science were called in more than it is on this question of food mixtures, the results would be more satisfactory than they are, and the saving to the farmers' pockets might amount to a large sum.

With respect to plants, they practically depend on three elements for food—nitrogen, potash, and phosphorus. Other elements enter only in small quantities, and are almost always present in sufficiency. Of these three principal foods, by far the most expensive is nitrogen. If applied in the form of nitrate of soda, it costs about 8d. a lb., or £76 a ton of nitrogen. And yet Nature is always surrounded by an unlimited quantity of free nitrogen, if only it could be turned to account for our purposes. The atmosphere which we breathe is composed, as to four-fifths, of nitrogen. The problem has naturally arisen as to how this unlimited store can be turned to profitable use. With ample facilities for research, perhaps the problem would have been more fully solved years ago than it is to-day. Owing, however, to the individual efforts of certain scientific men, it has been ascertained that there are bacteria which have the power of fixing this nitrogen into the roots of what are called leguminous plants. So far, this has not effected a complete revolution in agriculture, and much remains to be done before the full benefit of the discovery can be realised. Again, in making farmyard manure, from 30 to 50 per cent. of the most valuable constituent (the nitrogen) gets wasted before the dung is "made," even under the best existing practical conditions. This waste is due to bacteria of the wrong kind setting nitrogen free as gas. Equally, when the made dung is applied to the land, not 50 per cent. of the nitrogen applied comes out in the crop, even when a long period of years is considered. The rest is wasted as nitrogen gas, or is locked up in forms which take a lifetime to reach the plant. The waste is due to bacteria of the wrong kind; the slow action is due to the weakness of bacteria of the right kind. When we can control the bacteria of the soil, we shall be able to double the fertilising value of so prosaic a manure as dung. Practically nothing is known of the nature or habits of these particular bacteria, and I regard it as one of the most important problems in which

agricultural research is now engaged to complete and turn to profitable account this most interesting discovery. These are only samples of profitable lines for research. The bacteria of the soil constitute, it has been well said, "the great unknown region" of agriculture. Something we know already; but more remains to be discovered. We know, as I have said, that some bacteria can "fix" atmospheric nitrogen for the benefit of the higher plants, and we know that other bacteria are able to destroy the nitrogenous compound; but, as yet, not much has been accomplished in the way of bringing them under control, although to do so is, of course, the object par excellence at which this branch of research must aim. If we really knew how to stimulate the nitrogen-fixing bacteria, or introduce a race with that character intensified, we might save the farmer that 8d. per pound which at present he pays for the fertiliser nitrogen, and which costs the industry an aggregate of over £3,000,000 a year.

No one can fail to see that Government aid to agricultural research in this country is scanty in itself, and wholly disproportionate to the urgency of the case and to the probabilities of successful result. Nearly all that has been achieved in this country is the work of private effort and private enterprise, and far be it from me to discourage such healthy results of individualism. I think it may be claimed that good work has been done and is being done. But owing to the lack of public appreciation of the vital necessities of the case, and the consequent apathy of successive Governments, this effort and this enterprise have been limited in scope and have not been able to attain anything like really national proportions. On the whole, research is scanty and spasmodic. Nevertheless, we are not justified in expecting more, either in the way of time, trouble, or money, from private individuals, who appear to me to have already played their part generously in a work which can bring them no personal profit. It is the State alone that can assist this individual effort without displacing it and increase the output of research to a scale which will be worthy of the importance of the case.—*The Scottish Farmer*.

Dairy Cows in Summer.—A frequent change of pasturage proves most beneficial to the well-being of grazing dairy cows during the summer season, and is the best means of stimulating and keeping up the flow of milk. When cows are kept continuously on the same pasture for any length of time, the grazing becomes more or less stale to them, and under these conditions they no longer graze with the same relish as they did at first, and they do not thrive so

well in consequence. This, of course, cannot fail to affect the milk secretion in an adverse manner. It is always found that cows feed much better and with greater relish when turned into a fresh pasture than they do on pasturage on which they have been running for some time.

In addition to the good effect which a change of pasture at frequent intervals has upon the well-being of the cows and upon their milk-yield, it is also of great benefit to the pastures themselves. A short rest from grazing affords the pasture an opportunity of recuperating, and gives the grass and herbage a chance of making some new growth. It especially promotes the growth of the good and finer grasses which, on account of their great palatability, are most closely and most continuously cropped by the stock.

In regard to the stocking of pasture land with dairy cattle, it is decidedly much the better plan to stock a pasture pretty heavily for a certain time and then, by moving the cows on to other ground, to give it a short rest in which to recuperate, rather than to keep it continuously stocked with a smaller herd of cows. A pasture ought always to be stocked sufficiently heavily to keep it evenly and uniformly eaten down, and it requires a brief rest occasionally during the grazing season if it is not to be grazed too bare by the stock.

Grazing dairy cows require protection from the sun during the summer, and it is therefore essential that there should be plenty of shade on their pasturage. Exposure to the rays of a hot summer sun is very detrimental to the well-being of the cows and causes them much discomfort. Unless there is ample shade on the pasture, they will not thrive properly. In default of large trees and well-grown, high hedges, which furnish the best protection from the sun, artificial shade must be provided on the pasture by means of a suitable shed. There is, of course, no necessity to spend a great deal of money upon the erection of a shed, and any kind of cheap and rough structure is perfectly suitable so long as it fulfils the requirements of affording ample shelter from the sun to the cows. Corrugated iron sheeting is not suitable as a roofing material. A shed which is roofed with corrugated iron gets too hot for the cattle when the sun shines upon it.

Cows do not suffer nearly so much discomfort from exposure to wet weather as they do from exposure to the sun, hence this question of shade on the pasturage is one of great importance, which it will not do to neglect.

A satisfactory water supply is a *sine qua non* on a pasture on which dairy cows are turned out. A running brook or stream if

unpolluted, is without question by far the best and most desirable form of water supply for grazing live stock, as the water is constantly fresh, clean, and cool. A pond on a pasture ought to be well shaded, so that the water in it may keep as cool and fresh as possible. When water is supplied to the cows in a tank, the tank should be placed in a shady spot.

The most suitable kinds of concentrated foodstuffs for dairy cows during the grazing season are undecorticated cotton-cake, rice meal, and bran. Better results, as a rule, attend the feeding with a mixture of two or more concentrated foods than with one only. When the pasturage is of good quality and affords plenty of food, the grazing alone stimulates the milk secretion of the cows to the utmost possible extent during the spring and early summer; under these conditions, an allowance of concentrated food to the cows has no effect upon the yield of milk, and it is therefore both superfluous and wasteful. With the commencement of the second half of the summer, however, the grazing no longer possesses the same milk-forcing qualities, the grass and herbage being less sappy and succulent; the milk secretion can then be considerably stimulated and the yield of milk increased by giving an allowance of concentrated food to the cows.—H. F. in *Live Stock Journal*.

Swine Fever.—Mr. J. S. Lloyd, F.R.C.V.S., Chief Veterinary Inspector, Sheffield, recently read a paper before the Lancashire Veterinary Medical Society, which has been reprinted from the *Veterinary Journal*. After pointing out the conditions which accelerate the increase of Swine Fever, he considered the measures adopted for the control of Swine Fever outbreaks and what success or failure had attended these Orders. Finally, he offered suggestions for controlling the disease, and said it must not be thought that the veterinary profession condemned altogether the policy of the Board of Agriculture in the past. Most members of the profession recognised the difficulties such a disease as swine fever presented, difficulties which had to be tackled and surmounted before any measure of success could be hoped for.

To sum up the situation, it appears to Mr. Lloyd from his investigations into the policy of the Board of Agriculture and his experience as chief veterinary inspector of a large city—where there is a considerable pig population, and where he has complete control of all executive work done under the Diseases of Animals Acts, including work under the Swine Fever Orders, and supervision of all regulations relating to the movement of swine—that some action on the following lines will have to be taken

before success can be looked for in dealing with the control of swine fever :—

- (1) The addition of an article in the Swine Fever Order of 1894, providing for the presumption of knowledge of disease (swine fever) on the part of owners of swine, similar to that in the Anthrax Order of 1899. This would probably have the effect of earlier notification of suspected cases of swine fever, and would lead owners of swine to call in veterinary assistance when they have pigs which are not healthy, or appear to be unthrifty.
- (2) Compulsory notification by veterinary surgeons, with payment by central authority of a small notification fee. This would assist the Board by preventing owners of pigs getting rid of their pigs after being informed of suspicious cases by their veterinary advisers, and would prevent wilful concealment in such cases.
- (3) Compulsory slaughter of all diseased and in-contact pigs on infected premises, with compensation payable by the Board. The Board now occasionally isolates for three months, but the writer thinks no pigs ought to be moved alive from such premises.
- (4) Complete disinfection of infected premises—destruction by burning, if necessary—by properly qualified officers of local authorities. This is now done by the occupiers of the premises under the supervision of the lay inspectors of the Board. The writer thinks this work would be done more completely by men specially qualified by experience to do the work, the cost to be paid by the Board.
- (5) Stoppage of further occupation of infected premises by swine for at least four months. It is well-known that fresh fuel keeps up a fire, and fresh swine on a recently infected place are very likely to become affected, provided there is any infection about, and thus keep the disease alive.
- (6) Formation of infected circle around each infected place. This need not be large, but should include all swine, say, within a radius of 400 yards. It should be done by posting up an order and serving a copy on each occupier, prohibiting movement, stating the infected premises and warning off trespassers. It should be kept on for at least two months after the date of the last outbreak in the circle, and should only be withdrawn after a special veterinary inspection has been made of all pigs within the circle and a report to

the effect that the pigs are healthy. It should not prevent movement of pigs or carcasses to a slaughterhouse or dwelling-house with a license.

- (7) Formation of infected area where numerous outbreaks occur in the comparatively small area. This is now done by the Board and ought to be continued on the same lines as at present.
- (8) Repeal of the Swine Fever (Regulation of Movement) Order of 1903, and formation of an order prohibiting movements of swine generally throughout the country except by license. The latter should be granted on certain simple, uniform and easily applied conditions. The writer thinks the period of detention should be extended to fifty-six days in the case of store pigs, as he is convinced from experience of actual outbreaks that twenty-eight days is too short a period to prevent the introduction of swine fever to premises previously free from disease.
- (9) A complete register of all licenses issued to be kept by local authorities, and all declarations and movement licenses to be kept for at least six months before being destroyed. By these means all legal movements of swine in any particular district could be easily traced for a period of at least six months and it would be of immense value in tracing back the origin of swine fever outbreaks.
- (10) Registration by local authorities of all pig-dealers in their districts. Only men of good character, with clean and properly constructed piggeries, should be registered, and commission of any offence against Swine Fever Orders or Regulations should warrant withdrawal of the registration.
- (11) Licensing by local authorities of all fairs, markets, sales, lairs, saleyards, or exhibitions. All movements of pigs to or from to be by license in accordance with the Swine Fever (General Movement) Order.
- (12) Regular, systematic, and complete disinfection of all markets, fairs, saleyards, lairs, etc., to be carried out by officers of the local authorities at the expense of the owners, lessees, or occupiers, as the case may be.
etc., by the properly appointed veterinary inspectors to the local authorities.
- (13) Compulsory and regular inspection of all markets, lairs,

No doubt it will appear to many that considerable hardship and inconvenience would ensue if general restrictions and regulations

on the lines suggested above were enforced. But no contagious disease of animals ever known has so far been eradicated without someone having to suffer,—e.g., rabies, the latest disease stamped out—and surely it is better to put up with some temporary inconvenience if there is any likelihood of deriving a permanent benefit thereby. The mistaken policy of the Board in the past seems to have arisen chiefly from a desire to please everybody. It cannot be done with success. The result during the last two years has been to increase the outbreaks of swine fever, and to decrease the number of pigs, at the same time spending yearly about £50,000 of public money.

A draft form of a suggested Swine Fever (General Movement) Order is printed at the end of the paper.

Manurial Value of Feeding Stuffs.—Mr. John Hughes, F.I.C., writing in *Farm and Home*, says:—The Agricultural Holdings Act, 1906, when it comes into operation on 1st January, 1909, will certainly increase and render more difficult the work of the valuer who will be required to state the pecuniary value to the incoming tenant of improvements made by the outgoing one.

The term “improvement” is so general that it will certainly be held to include much more than the manurial value of purchased feeding stuffs and fertilisers. Further, the valuer will have to state the pecuniary amount of the manurial value of all crops sold off or removed by the outgoing tenant from the holding in contravention of the custom, contract, or agreement. The Act omits, however, to furnish any authorized basis for determining and calculating the residual manurial value of the numerous feeding stuffs usually purchased by farmers, and this omission will probably cause much difference of opinion between the respective valuers.

Hitherto it has been usual to allow a proportionate part of the cost of purchased foodstuffs, but the late Sir John Lawes and Sir Henry Gilbert suggested that the manurial value rather than the original cost should regulate the allowance made to the outgoing tenant for the previous consumption on the holding of purchased feeding materials. In the original tables prepared by Messrs. Lawes and Gilbert the allowance for residual manurial value was calculated to extend back as long as eight years. In the revised schedule prepared by Dr. Voelcker and Mr. A. D. Hall, and published in the *Journal of the Royal Agricultural Society* for 1902, the period over which allowance is proposed to be made is restricted to four years, as being more in accordance with the ordinary four course farming; for a good crop of

clover was found to have accumulated so much nitrogen in the soil that the effect of different manurial residues was often completely obliterated. Messrs. Voelcker and Hall recommend that for the second, third, and fourth years the compensation value should be one-half of that of the year immediately preceding. Also, bearing in mind the losses incurred during the consumption of the food by stock and in making and storing the dung, that compensation should be paid on the basis of one half of the original nitrogen, three-quarters of the phosphoric acid, and the whole of the potash contained in purchased food. As regards the actual unit value to be attached to these constituents, Messrs. Voelcker and Hall state :—" We have calculated out from the current prices of nitrate of soda, sulphate of ammonia, dried blood, hoofs and horns, shoddy, rape, dust, bones, dissolved bones, fish manure, Peruvian and phosphatic guanos, superphosphate, basic slag, kainit, sulphate and muriate of potash, the average unit values per ton as follows :—

For nitrogen ..	..	12s.	per unit	per ton.
„ phosphoric acid ..	..	3s.	„	„
„ potash ..	..	4s.	„	„

But these figures appear to be far too high, and are scarcely likely to be accepted by the representative of the incoming tenant. It would be unreasonable to apply the unit value of concentrated manures such as sulphate of ammonia, nitrate of soda, sulphate of potash, steamed bone meal, and superphosphate, to materials like decorticated cotton cake, linseed cake, maize, and rice meal, which contain originally only from 2 to 7 per cent. nitrogen, 2 to 3 per cent. phosphoric acid, and about 2 per cent. potash. The unit value should really be calculated from waste materials, such as shoddy, scutch, rape dust, etc., because the residual manurial material of feeding stuffs is produced in the form of a bulky manure containing about 75 per cent. of water, and not in the form of a high class concentrated manure. That the above unit values are too high can be easily illustrated by applying them to the valuation of ordinary farmyard dung of average quality. The result would be as follows :—

Nitrogen	per cent	.6	at 12s. per unit	7s. 2d.
Potash	„	.5	„ 4s. „	2s. 0d.
Phosphoric acid	„	.4	„ 3s. „	1s. 2d.
One ton cost				10s. 4d.

No incoming farmer would ever agree to pay 10s. 4d. per ton for such dung.

Again, let us take an actual case as given in Voelcker and Hall's tables, in respect of one ton of decorticated cotton cake :—

Nitrogen	6.90	half to	manure	$3.45 \times 12s.$	$= 41s. 5d.$
Potash	2.00	all	„	$2.00 \times 4s.$	$= 8s. 0d.$
Phosphoric acid	3.10	3-4ths	„	$2.33 \times 3s.$	$= 7s. 0d.$
					<hr/>
					£2 16s. 5d.

The incoming tenant would have to pay 56s. 5d. for every ton of such cake that had been converted into dung and applied to the land during the last year, and 28s. 2d. if applied in the preceding year, 14s. 1d. in the third year, and 7s. in the fourth year. We might compare this rate of compensation with the fertility likely to arise from the application by the incoming tenant of one ton of shoddy which can be obtained, delivered at station, for 36s. per ton. In addition to $1\frac{1}{2}$ per cent. potash and 1 per cent. phosphoric acid, this is guaranteed to contain 6 per cent. of nitrogen, which works out exactly at 6s. per unit, or just half that charged on account of the decorticated cotton cake.

If, therefore, the manurial values of feeding stuffs are to be used by valuers in assessing the amount of compensation to be paid by the incomer, or charged to the outgoer in respect of crops sold contrary to the agreement, the unit values should be on a more moderate scale than that proposed by Messrs. Voelcker and Hall.

It will be desirable, when making a claim for compensation in respect of food or manures purchased, that the analyses of the same made by the official analyst appointed under the Fertilisers and Feedings Stuffs Act, 1906, should in all cases be produced in proof of the reputed quality. It seems also reasonable that cake or meal given to sheep on the land should be allowed for at a much higher rate than when such food is consumed by cattle in open yards, where much of the urine is frequently lost in the drainage. Indeed, the necessity of appointing a thoroughly experienced and practical man as valuer will become more than ever necessary in farm valuations under the new Act.

The Fertilisers and Feeding Stuffs Act.—The new Act of 1906 came into operation on January 1, 1907, and as the official returns sent in to the Board of Agriculture and Fisheries have not yet been published, it may be interesting to give some account of the working of the Act in one county from personal experience. In all sixty-four samples, consisting of forty-nine fertilisers and fifteen feeding stuffs, were received for analysis during the year, but of these only four—namely, three basic slags and one linseed cake—were taken officially by the sampler appointed by the county. The analytical

results of these four samples were quite satisfactory, and in accordance with the quality guaranteed on the invoice. Of the sixty samples taken unofficially by the purchaser for his own information several were unsatisfactory and warranted ample compensation, though from the wording of the Act no legal action could be taken for the institution of either civil or criminal proceedings; and as the period of sampling is limited to ten days after the delivery of the article or the receipt of the invoice, whichever is later, there was no time to get the official sampler to draw fresh samples in accordance with the prescribed regulations. The limitation of the period for sampling to ten days after delivery is really a serious defect in the new Act, and it seems very remarkable that the legal draughtsman did not recognise the necessity for a longer period. The Act provides for two kinds of sampling, namely, unofficially or privately by the purchaser without notice to the seller; and officially by the official sampler, or after giving three days' notice in writing to the sellers, and in whose absence a witness must be present. Obviously it was intended that in the event of the analytical results of the unofficially taken sample being unsatisfactory, the purchaser should have the opportunity of having further and fresh samples drawn officially in order that legal proceedings might be taken if necessary.

It is hoped that the Board of Agriculture may take advantage of the power given under section 4 (1) d to extend the period for sampling from ten to twenty-one days. Much unnecessary correspondence and delay is frequently caused from the sender omitting to enclose the invoice for inspection when forwarding the sample and authorized fee. The Act requires that the analyst should see the terms of the invoice and the quality guaranteed, because on some invoices the requirements of the Act are ignored, and only 1 per cent. of the important constituents is guaranteed, while at other times the material is sold without any guarantee and on the understanding that the rate of payment shall depend upon the results of the analysis. The production of the invoice is necessary, however, for another reason, namely, in proof that the sample sent represents an actual purchase, and not simply a specimen on approval. This is no imaginary suggestion, for during the past year samples have been submitted for analysis which did not represent a purchase, and on requesting the invoice it was stated that the samples were simply for approval in prospect of purchase. As the greater portion of the fee is paid out of the county rates, the analyst has naturally to be careful that no unfair advantage of the Act is taken.

The Act appears to be of considerable practical use in enabling

farmers to have analyses at a cheap rate and without intimation to the sellers. The following cases show the necessity of occasional prosecutions. A sample described as bone fertiliser was sent for analysis, and, according to the invoice, was guaranteed to contain 60 per cent. phosphate of lime and 2 per cent. nitrogen, but on analysis was found to contain only .76 nitrogen and absolutely no phosphate of lime at all. A basic slag was guaranteed to contain 42 per cent. of phosphate of lime soluble in citric acid solution (Wagner's method), but only contained 30.67. A shoddy which contained 5.50 nitrogen on analysis was guaranteed on invoice to contain only 1 per cent. A superphosphate was described in the invoice as "containing 36 to 38 per cent. of bone phosphate partly soluble," whereas the Act requires that the actual proportions of soluble phosphate and insoluble phosphate should be separately stated. A sample of wool manure which contained on analysis 5.20 nitrogen was described on invoice as "manufacturers' residue," and guaranteed to contain only 1 per cent. of nitrogen. It may be pointed out that according to the Act sellers of fertilisers are required to state on the invoice the name of the article and the respective percentages of nitrogen, soluble phosphate, insoluble phosphate, and potash (if any) contained in the same. Also, as regards feeding stuffs, the name of the article and the respective percentages of oil and albuminoids. It is always necessary to examine carefully the terms stated in the contract note given at the time the purchase is made, and if the terms stated are not in accordance with the above-named requirements of the Act the purchaser should get the article officially sampled immediately on arrival.—OFFICIAL ANALYST in *The Field*.

The Veterinary Aspect of Tuberculosis.—Prof. Penberthy recently delivered a lecture on the above subject before the Royal Institute of Public Health, from which we take the following extracts:—It is of some importance that the extent of the danger of tuberculosis in man or in cattle from its several sources be, as far as possible, realised. There are evidently two sources, tuberculous man and tuberculous animals, and exaggerated ideas of the one are very liable to obscure the importance of the other and to lead to misdirected efforts. That the danger from infection with tubercle bacilli from a bovine source is serious may not be denied, for tuberculosis in man is always a serious disease, and whether the danger be great or little, if it is avoidable it is incumbent on us to at once devote our energies to its removal.

In the earlier part of the campaign against tuberculosis the consumption of flesh from tuberculous animals was regarded as of

chief importance in the transmission of the disease from animals to man. Meat inspection, etc., relegated this to a lower position in the scale of importance, while studies of the Registrar-General's returns pointing to the great infant mortality from *tuberculosis mesenterica*, etc., have raised milk to the higher plane.

We may, however, ask for an explanation of the fact that while the examination of cows' milk in Berlin yielded evidence of tubercle bacilli in 14 per cent. of the samples examined, and that of London milks only 4 per cent., the percentage of deaths from *tuberculosis mesenterica* in Berlin should be 2.84 per cent. and those in London 43.56 per cent. ? If the conditions under which the samples were severally taken were identical, and the deductions from *post-mortem* examinations in both cases correct, the discrepancy in results is highly suggestive of some factors in operation in London and other English cities beyond the bacilli discharged by the cow in her milk. The figures from the New York Foundling Hospital (3 per cent.) are strikingly like those of Berlin (2.84 per cent.).

It is a matter of some importance that we should ascertain, as far as possible, the extent to which mammary tuberculosis prevails in ordinary milking herds. It has been variously estimated, but it appears to be a general impression that about 2 per cent. of the cows in Great Britain are so affected. The following figures suggest that this estimate is too high, while the results of bacteriological examination of milk and *post-mortem* observation indicate that the results of clinical examination are approximately correct. In the county of London there are about 4,000 cows kept, and about twelve cases of mammary tuberculosis are discovered annually. By virtue of powers included in the London County Council General Powers Act, 1904 (par. 5), animals suspected of mammary tuberculosis are slaughtered, and this has shown the *intra vitam* examination—at any rate, the positive results of it—to be fairly correct. These figures indicate .3 per cent.

I wish it to be clearly understood that the object of the production of these figures is not an attempt to minimise the real danger, but to endeavour to indicate that its removal or material diminution is not without the bounds of possibility as regards cost.

Notwithstanding the asserted prevalence of tubercle bacilli in cows' milk, and the suggestion that the method of infection is most commonly by ingestion, it is remarkable that calves which have for longer or shorter periods lived exclusively on cows' milk, and not infrequently largely on separated milk, should enjoy such a high degree of freedom from the disease. Tuberculosis in young bovines is comparatively rare. In support of this view, we may refer to

the report of the Veterinary Inspector for the city of London for 1905, and find that of 140,072 carcasses of calves, ranging from one to six months old, examined, in only twenty-one were any signs of disease discernible, and as this represents the total number diseased, it is probable that not more than thirteen were tuberculous, i.e., .07 per cent. In the city of Glasgow abattoir, where "calves" include all bovines up to about nine months old, of 3,033 carcasses examined .22 per cent. only showed signs of tuberculosis.

On the score of the protection of human health as well as of home interests, we must insist on the production of some evidence of freedom from tubercle bacilli of imported meat as well as of dairy products, which cost us £31,000,000 yearly. There is the demand for inspection of the viscera of our home-killed cattle, etc., and without them the best, indeed, the only reliable evidence of generalised tuberculosis, may be wanting. If this is necessary in case of our home-bred cattle, surely we should have similar evidence concerning animals whose carcasses are imported by us, and a reliable certificate of freedom from evidence of tuberculosis should accompany all carcasses so imported. A lesson has been set us by the importers of live stock exported from this country; not only is a certificate of non-reaction to tuberculin on this side demanded, but the animals are again tested on debarkation, and, if they react, are returned or slaughtered.

While the extent of bovine tuberculosis and its existence in man and other animals remove all hope of early extirpation of the disease with any means now at our disposal, we believe that the war against the common foe must go on simultaneously in man and cattle.

The application of preventive measures must entail both legislative and voluntary action. In the adoption of compulsion the fact that it is intended for the public good must not be lost sight of, for though the eradication of tuberculosis from his herd would ultimately benefit the stock-owner, any serious attempt to benefit the public by radical measures must entail considerable present loss, which would inflict great hardship on a portion of the community which has long been struggling against adversity. No stronger argument for the giving of reasonable compensation could be adduced—except perhaps that by doing so the object in view would be most rapidly accomplished—than the statement of a high authority quoted at the commencement of my remarks: "A stock-owner may have tuberculosis among his cattle for many years and suffer no loss at all." The existence of tuberculosis among his cattle is no fault of the stock-owner's, but the result of natural laws, whose action it has not been within his power

to avert. If he used the most costly and troublesome means and extirpated every tuberculous animal from his herd, he could have no guarantee that his cattle would remain free. The object aimed at is worthy the expenditure of money and trouble, and it would appear only just that the public, who are mainly to benefit, should bear a share of the cost.

From figures already given, it will be gathered that while the number of cases of tubercle-bacilli-discharging cows in town cowsheds has been very materially reduced, during the past decade, in those municipalities which have adopted systematic inspection, the percentage discovered in the milk of cows in country cowsheds is still high, and it remains the source of greatest danger. We venture to think that had similar measures affecting every cow, cowshed, etc., in the kingdom been in operation during the same period, even a greater proportionate decline in the number of deaths attributable to tubercle bacilli from bovine sources would have been noticeable in the whole death-rate of the Kingdom. This piecemeal legislation undoubtedly has the effect of sending dangerous cows to the country, and of increasing the dangers from country milk. Application of the knowledge we already possess, including the best in all public and private acts, is imperative. This is quite sufficient for the formulation of a comprehensive measure, which should not be affected by party politics, to embrace the whole country. At present the law is incomplete and largely ineffective, and the Government by default is permitting the traffic in tubercle-bearing milk, which is unwholesome and dangerous and ought not to be sold for human food.

It is no excuse to tell us that local authorities may acquire powers for the fact that they do not is in itself proof of the necessity for compulsion and uniformity of action.

The Farmer's Library.

NOTES AND REVIEWS OF NEW BOOKS.

- 1.—*Encyclopædia of Agriculture, Vol. I.* Edited by C. E. GREEN and D. YOUNG. London and Edinburgh : Wm. Green & Sons. 20s.

There is no more difficult task in the region of literary work than that of editing an encyclopædia. We include under the term editing the selection of writers, the limitation of the subjects and their treatment, and the revisal of the manuscript articles. Perhaps the most difficult task of all is the limitation of the treatment which shall be given to each article.

This is especially difficult in the case of an agricultural encyclopædia. What science is there that does not in some way or to some extent touch or bear upon agriculture? Even astronomy, at first thought apparently the most remote from agriculture, has its bearing thereon, especially if it should be true, as some believe, that the weather is directly influenced by what we may term astronomical conditions. But botany, chemistry, geology, physiology and zoology all have a direct bearing upon both the science and practice of agriculture, and yet any one of these sciences is in itself sufficiently important to fill an encyclopædia. So the first great task of the editor must be to determine the limitations which shall be placed upon the articles contributed. In order to do this, it is necessary to clearly define the exact scope and object of the work. From our examination of this first volume, it appears to us that in this case the desire was to be practical, to appeal to the practical agriculturist, and not to the mere theorist, to treat even scientific subjects solely from the point of their practical agricultural value and not in any way to attempt to include a series of either elementary or advanced text books of science in this work. Those who wish to study a science must go to scientific treatises

for the purpose; those who wish to obtain an insight into the practical bearing of science upon agriculture will find what they require in this encyclopædia. The first volume covers articles from Aberdeen Angus Cattle to Drains. It is anticipated that the whole alphabet will require four volumes in all, and if the other volumes come up to the standard of this one, the whole will form an agricultural library embodying the best present knowledge of agricultural matters both practical and scientific. The list of authors is a long one, and includes many of the best known authorities of the day. We are pleased to see that considerable prominence is given to arboricultural subjects, the articles being written by the Right Hon. Sir Herbert E. Maxwell, Bart., F.R.S., while the Hon. Jesse Collings writes on Allotments and Commons. Professor Wrightson contributes a number of articles both on scientific and practical subjects. The veterinary subjects are treated mainly by Professor Penberthy, dairying by Professor Long, except as regards the cheese-making articles, which are chiefly by Mr. F. J. Lloyd. The botanical articles are from the pen of Professor Percival. These, however, are only a few of the contributors to this important work, for there are many others, equally well-known authorities, who have joined to make the encyclopædia a store-house of agricultural knowledge. The work is not profusely illustrated but only where illustrations are really requisite to help elucidate the text. Thus implements are not illustrated because "they are continually changing and are to be found in all implement makers' catalogues." "Pictures of cereals, roots and tubers are also to be found in seedsmen's catalogues," and, therefore, have not been depicted. As with the illustrations so with the articles, there is no padding, all being solid work. Opinions will differ upon some points, but this only lends a zest to the study of the work, which ought to find its place in the library of every well informed agriculturist who wishes to keep abreast of the progress made in agricultural science and practice of late years.

2.—*Agricultural Botany: Theoretical and Practical.* By JOHN PERCIVAL, M.A., F.L.S. London: Duckworth & Co. 7s. 6d.

The first edition of this book was published in 1900, and the mere fact that a third edition is required in so short a time is, perhaps, the best proof of the value which is attached to the work by those for whom it is intended. It is essentially a text book for students of agriculture, or for those interested in agriculture, whose education permits of their reading a scientific work upon that branch of science which, perhaps more than any other, utilises special scientific terms in which to express its statements. This use of technical terms has always been a great drawback to the ordinary reader or practical man who wanted to obtain some botanical knowledge. On the other hand, the mere fact of botany being essentially a study of the schools caused its practical application to be in most cases neglected by those who devoted their time to its pursuit. Hence as the author says, "Most text books of botany contain a large amount of matter, which though important to the botanist is, nevertheless, of little interest or value to the agriculturist." He might have said also that few of the text books of botany, especially modern text books, were of practical interest or value at all, but mere scientific treatises. Yet there is no science of more importance to the farmer than botany except, perhaps, chemistry. Indeed, modern botany requires no small amount of chemical knowledge on the part of the student in order to understand its most valuable lessons. The author in this work has kept constantly in mind the practical value and application of all his teaching, but has discarded the partly scientific aspect of his subject, where this had no practical value, and his book is, therefore, a text book eminently suitable for all those who in any way have to deal with the practical problems connected with plant life, whether they be gardeners or farmers, or students who purpose later in life to take up these pursuits. But botany cannot be taught, nor written about, without the use of many scientific terms, and no one could take up this book, open it indiscriminately at any page, and commence to read it intelligently, without having previously studied botanical terms, in other words, the elements of botany. But the author does not take this previous study for granted. All the terms which he employs have been described as the subject was treated, so that a systematic study of the book from the commencement enables the student to understand the more technical phraseology used in the latter portion of the work. The book is not one to be merely read

or studied, it is intended to supplement practical work in the botanical laboratory, which work is really essential to the right understanding of this science. We must seek first in the garden for a true interest in botany and its most lasting lessons, next in the laboratory, and lastly in the text book, if the subject is to be of living interest and practical value; this Professor Percival evidently realises.

Starting with the seed of a common bean, its structure and germination, and then considering other common seeds, the roots, stems, leaves, and buds are consecutively studied, and subsequently the flowers and fruits. Having thus obtained an idea of the external form of plants, the internal structure is next considered in detail, and well illustrated to help the student in his microscopical examination of the various parts. The next division of the book deals with the physiology of plants—that is their chemical composition, how they obtain their various constituents, and what they do with them. In this part there is a short chapter on enzymes and what the author calls the “digestion” of reserve materials. Somehow this word digestion does not appear to us quite apt. It has been hitherto confined to the processes taking place in the animal body which result in the destruction of food material. We prefer the word transformation—which is also used by the author—to represent those changes in the plant which enable matter to pass from one part of the plant, where it has been stored up in an insoluble form, to another part of the plant, by being first converted into a soluble substance, without really being “digested” by the plant or utilised as food. The fourth part of the book treats of the classification of plants, and it is here that the special character of the work is best shown, as the illustrations are taken mainly from farm crops, whereas in an ordinary work on botany they are taken often from plants seldom met with or difficult to obtain, provided these best illustrate the scientific principle involved.

The remainder of this valuable work is mainly technical and of special value to the agriculturist. Part 5, dealing with weeds, Part 6, with farm seeds, and Parts 7 and 8, which are of quite exceptional value, with fungi and bacteria. We say advisedly that these are of exceptional value, because fungi and bacteria seem to play every day a more and more important part in practical agriculture. Whether it is as some people think that the intensive cultivation of latter days has engendered a weakness in our cultivated plants, which renders them peculiarly liable to disease produced by one or other of these causes, is difficult to say; but certain it is that in the future the farmer will need to study and

understand the effect and importance of fungi and bacteria more than any other aspect of economic botany. We have devoted some space to the description of this work because we think it one worthy of being well known and well studied by all who can appreciate its valuable lessons.

3.—*Co-Operative Banking*. By H. W. WOLFF. London: P. S. King & Son.

At first sight this book might appear outside the scope of our *Journal*, and, indeed, in some respects it is, but the author has sent us a copy for our inspection, and the following extracts will explain why:—

“People will have it that agriculture does not ‘pay.’ It does not, very likely, on the old lines. But no calling pays better in small hands when there is plenty of money to work it with. Only, in all our callings—agriculture has been the last to learn the lesson—the rule of the present day is: You must have plenty of working capital. It is not the food which just supports the life of the beast which earns a profit, but the extra hundredweight of cake or meal which lays on the flesh and fat. It is not the mere delving or ploughing of the soil that makes farming remunerative, but the manure put into it. And of such fertilising material the last bag or hundredweight earns a profit out of all proportion to that earned by the preceding ones. It is ‘intensive’ which does it. The old Roman saying: “*Annus producit, non ager*,” might very appropriately be altered so as to make it say: It is not the land that pays, but the money which you put into it. Of course, judicious employment must be taken for granted. But all knowledge and skill, all foresight and calculation will be thrown away if we have not got the money.”

Evidently if “it is not the land which pays but the money which you put into it,” there is a necessity for this money to be possessed or obtained somehow by farmers.

“Now the same need of capital, much working capital, for

purposes of production, trade and commerce, applies to small undertakings as well as to large. Such small enterprises have opportunities as well as the others, but cannot at present turn them to account, and small enterprises it is which we have to reckon with more particularly in agriculture."

It is, however, impossible to borrow without security. Does such security exist. The author's reply is that it does. He says:—

"There is as I hope to show, as a matter of fact, plenty of security to pledge. Only it is not of a description such as an ordinary business bank could take, or be expected to take. Therefore a new agency must be created to make it effective."

"The going bail of a rich man for a poor is open to very serious abuse, such as may unfortunately be witnessed, among other places in Italy, where it is not unusual for a small peasant or artisan in need of funds, and not dealing directly with a co-operative bank, to ask a usurer, not for a loan, but for his endorsement, for which he pays high interest. Our aim must be to provide an institution which is in a position to deal, and deal at any time, with the small man on his own terms, accepting security such as he has in his power to give, without drawing on the protection of the rich. And that implies and includes what must accordingly become the main factor in our problem, the providing of some new kind of security, which small men can give, collectively if not singly, the devising of some new pledge for credit such as will serve where there is no tangible security to offer."

"But our immediate problem, upon which everything else hinges and which must above all things be dealt with, is that of devising a new kind of security, within the reach of everyone as a borrower, but at the same time satisfying to the lender."

Evidently it is not security in the ordinary sense of the word. What is it? For a full answer the work itself must be consulted.

The remainder of the book develops the idea that co-operation provides the necessary security. The author thinks that the problem is to be solved by co-operative banks. As he says in his introduction:—

"The banks have come, and they have found wants waiting and uses abundant. Business has gravitated to them, thousands of needs for them have been discovered. Their merits have become known, recognised, prized. And they

have proved most useful helps to social advancement and agricultural and industrial development."

The author works out his theme in the book before us. It is a most difficult subject, one which needs special banking knowledge to enable one to follow, much less criticise, the author as he proceeds. He, however, considers that he conclusively proves his contention that by co-operative banking many of the most difficult problems of the present day might be solved.

4.—BOOKS ON GARDENING.

We have received a considerable number of books on gardening, and as the subject is one which affects at least the artistic if not the business side of country life, we give a brief notice of these works for the benefit of our readers. They vary in their range from the simplest and cheapest guides to advanced and more expensive treatises.

The Alphabet of Gardening: An illustrated Guide. By T. W. SANDERS. London: W. H. & L. Collingridge. 1s. 6d.

This book deals with the fundamental principles of the art and craft of gardening. It describes the correct methods of carrying out all the chief gardening operations, and not merely describes them but so admirably illustrates with drawings the instruction given that the tyro in gardening could utilise this book as a guide and learn to carry out the ordinary operations required in a garden without the help of a teacher.

After a little useful information on soils and manures, we start with the propagation of plants, first by seeds, then by cuttings, by budding, grafting, layering, etc. Part 3 describes the practical work of digging and rendering the soil fertile, planting and transplanting, watering, thinning and pruning. The latter, a most important subject, little understood even by those who profess to know their business as gardeners, is admirably illustrated, and shows that the author realises the necessity of greater knowledge of this operation as well as its value in successful culture. Another chapter is devoted to potting, and forcing, hot beds, and the greenhouse receive slight treatment. It will thus be seen that all

the operations necessary for the pursuit of gardening receive consideration, and this in so simple, yet practical a manner, that the work might be used as an elementary text book in rural schools.

Gardening Year Book. By GEORGE GORDON. London :
The "Gardener's Magazine" Office. 1s.

We have noticed former editions of this book in previous years, and this number maintains the high character of those which have preceded it, and is built up, so to speak, in the same way. The first portion is a diary. The second gives systematically for each month the work which should be done in the flower garden, conservatory, kitchen garden, etc., with a page of daily reminders at the end of each month. This description of the year's work in the garden occupies no less than seventy pages; this will give an idea of how thorough it is. The remainder of the book is devoted to a description of some of the novelties of the year and of beautiful plants worth cultivating, the numerous illustrations of which tempt one to invest in some of these beautiful flowers. There is valuable advice on the culture of vegetables, and much other information likely to be useful to those who devote some of their time to the pleasures of gardening.

Sweet Peas and their Cultivation. By C. H. CURTIS. London :
The "Amateur Gardening" Office. 1s.

The sweet pea has rushed into fashion in a manner which for suddenness is probably unparalleled. Last year every amateur gardener sported a button hole of sweet peas, and keen were the discussions as to the relative merits of the different varieties and the colour of competing specimens. Undoubtedly the sweet pea is a beautiful flower, and the study recently given to its culture has resulted in some very remarkable productions. Those who would like to try their hand at its cultivation will find this book just the guide they want. They will learn here what are considered

the best varieties and how to cultivate them, from the preparation of the soil and the sowing of the seed to the subsequent operations necessary to ensure satisfactory results. For those who are sufficiently advanced, there is a chapter on the raising of new varieties and also some hints for exhibitors. The sweet pea has its enemies, being subject to both vegetable and animal diseases and pests, and how to combat these is briefly described. The author has endeavoured to make this book complete and sufficiently attractive to induce those who have not hitherto grown sweet peas to take up "the culture of a flower that is one of the sweetest and most beautiful that nature and the genius of man have combined to produce."

5.—*Grapes, and how to grow them.* By J. LANSDELL. London : W. H. & L. Collingridge. 1s.

This is a very well-printed and illustrated guide to the cultivation of grapes which, in its eighteen chapters, treats of everything the amateur grape grower can wish to know, from the history of the vine to the pests and ailments to which the plant is liable. Vineries and their construction, the preparation of the border, and the planting and propagation of the vine are consecutively considered, and then every stage in the growth of the vine up to the packing of the grapes for market. Pruning, disbudding, and thinning, which are, perhaps, for many amateurs, the most difficult operations in grape culture, are carefully considered. In fact, there are few points connected with grape cultivation which are not dealt with, though readers may wish that some of them could have been treated more fully. Still it is a good little guide and contains a vast amount of useful information on the cultivation of grapes.

6.—*The Flower Garden.* By T. W. SAUNDERS. London : W. H. & L. Collingridge. 7s. 6d.

To those who love a flower garden this book will be of constant value, while it is likely to induce in those who have not as yet taken up gardening a keen desire to begin this interesting pursuit. It is frequently supposed that a garden can only be

beautiful when it is large and possessed by someone with a long purse and plenty of time for his hobby. But the very first chapter of this book will dispel that illusion. "The garden beautiful need not necessarily be large, more depends upon the use which is made of it," or "the fashioning of the garden" than on its mere size: the author starts with this all important subject and keeps it in mind throughout. Then the garden must be kept in order, and this needs practical work, which is next considered, as also are the tools and appliances necessary. In the second part of the work, the hardy plants (annuals, biennials and perennials) are treated alphabetically. The botanical name is given first and then the popular name. Unfortunately there is no index, and as we generally remember more easily the popular name of a plant than its botanical name, we may thus have a difficulty in finding what we require. Thus, if we look for Mignonette, we do not find it but have to remember or find out that its botanical name is *Reseda*, and then we obtain the information we seek. This want of an index—probably the only fault to be found with the book—is one which might be easily remedied in a future edition.

Hardy bulbs and tubers, orchids, water plants, ferns and mosses are similarly treated alphabetically. Then follows the consideration of tender border and bedding plants, of climbers and twiners, and lastly of trees and shrubs. The work is admirably illustrated throughout with reproductions of excellent photographs, which not only increase the interest of the reader, but in the earlier portion, concerning the laying out of gardens, materially assist the author to convey his meaning in a way that no words could.

The following extract is typical of the treatment accorded to the various flowers in this book, and will give a good idea of its admirable character.

"NARCISSUS (Daffodil).—A genus of beautiful spring flowering bulbs belonging to the Amaryllis order (*Amaryllidaceae*). The Narcissi are cosmopolitan in their requirements. They do equally in beds, in borders, in woodland gardens, or in masses in turf on the lawn or the meadow. It is, perhaps, under the latter form of cultivation that they show to the best advantage, the emerald green turf forming a charming setting to their lovely flowers. The Narcissi are varied in the form of their flowers, and specialists have classified them into three main groups, namely, (1) *Magnicoronata* or Trumpet Daffodils; (2) *Medio-coronati*, or Chalice Cupped Daffodils or Star Narcissi; and (3) *Parvi-coronati*, or Poet's Narcissi.

“ In the first group we get varieties with large crowns or trumpets, either yellow or primrose in colour, and others with a white parianth and yellow or primrose trumpets. The latter are called Bicolors. In the second group the crown or cup is much shorter than in the trumpet section ; and in the third group the cup or crown is shorter still. The Emperor is a typical Trumpet Daffodil ; Horsefieldi, a good type of the white and yellow, or Bicolor Trumpet Daffodil ; Sir Watkin of the Chalice, cupped group ; and the Poet’s Narcissus of the third group.

“ TRUMPET DAFFODILS.—Space will not permit us to describe more than a short selection of the various varieties in each group.”

This description, however, occupies two-and-a-half pages. The author then continues :—

“ As previously intimated, the various groups of Daffodils are adapted for cultivation in various ways, and one of their chief charms, apart from decorating the garden, lawn and woodland in spring, is the great value of their flowers for cutting. The Chalice Cup, Leedsii, Barrii and Poet’s kinds are extremely good for the latter purpose.

“ The secret of the successful culture of Daffodils in beds or borders is to thoroughly prepare the soil beforehand. It should be deeply dug and have some well rotted manure placed a foot below the surface. Manure must on no account come in contact with the bulbs. Where the soil is of a loamy nature Basic Slag may be applied at the rate of six ounces per square yard, or bone meal at the rate of four ounces per square yard before planting. In the case of sandy soils, which are usually deficient in Potash, Sulphate of Potash may be added at the rate of half an ounce per square yard. A thin dressing of lime is also beneficial. The best time to plant is during September and October, and the bulbs, according to their size, should be planted so that their tops are two to three inches below the surface. Where the soil is very light the bulbs may be put in an inch deeper to avoid the risk of being drawn up by frost. The distance apart should vary according to size from three to six inches. In planting in borders Daffodils do not look well arranged in rows ; they will look far better grouped in masses of one or more dozen bulbs.

“ The most picturesque way of growing Narcissi is in bold masses in the turf of the lawn, park or meadow, or in the

woodland, waterside or wild garden. No other flower yields such a charming effect when in bloom as a mass of Narcissi. Almost all of the Narcissi may be grown thus, but more especially the *Incomparabilis*, *Barrii*, *Leedsii*, *Poet's*, and *Trumpet* kinds. The best way to plant the bulbs is to sow them freely in a given spot and then to plant them where they lie by means of a dibber, or Barr's Bulb Planter. Make the holes three to four inches deep, drop the bulbs in and fill up with soil. In small gardens the fringe of trees, nooks at the base of rock beds, etc., are suitable places to plant small groups of bulbs. In this case lift the turf, fork up the soil, add a little bone meal, and then just press the bulbs into the mould and replace the turf.

"Choice kinds, like the *Hoop Petticoat*, *Angel's Tears* and *Cyclamen-flowered Daffodils* may be grown on rockeries.

"As regards the general culture of narcissi the main points are : (1) Not to plant in soils containing manure near the bulbs ; (2) Not to disturb the bulbs oftener than once in three or four years when grown in borders, and not at all in the case of those grown in grass ; (3) When lifting is necessary do it directly the foliage dies, dry and store the bulbs away in a cool place until September, when replant ; (4) Never cut the grass where bulbs are grown in turf till the foliage turns yellow in June ; (5) And where Narcissi are grown in beds or borders where it is necessary the bulbs should be lifted in June, always replant them in a spare border to complete their growth before drying and storing away ; and (6) Always plant in dry weather.

"As to propagation, Narcissi are readily obtained by offsets at lifting time. These should be planted in nursery beds, and those marked with sticks that flower the next season for lifting and re-planting permanently. Narcissi are also readily reared from seed sown when ripe in sandy soil in cold frames. The seedlings have to be grown on in beds for four or five years ere they flower."

All the advice in the book is of the same practical nature as the above quotations, and to those who are engaged in the cultivation of flowers the work can not fail to be both interesting and instructive.

- 7.—*Chicken Rearing and the Management of Incubators.* By A. T. JOHNSON. London: W. H. & L. Collingridge. 1s.

This volume forms the eleventh of a series of "Farm and Garden" handbooks, published with the view of supplying reliable information on the various profitable industries connected with the land. The author deals in a systematic way with the subjects of natural and artificial incubation and the rearing of chickens. He commences with a chapter on nature's method of incubation, and then describes the wonderful structure of an egg and the development of the embryo. The importance of obtaining good eggs for incubation is so great that a separate chapter is devoted to the subject, in which natural and artificial incubation also receive full consideration. The second part of the little book is devoted to the study of the rearing of chickens, first with hens, and then by the use of "foster mothers" or artificially, for, as the author remarks, generally speaking where there is an incubator there must be a "foster mother" in which to bring up the chickens.

A few words on diseases, etc., close this well illustrated and useful little volume.

- 8.—*Woburn Experimental Fruit Farm.* Eighth Report. By the DUKE OF BEDFORD, K.G., and S. V. PICKERING, F.R.S. London: The Amalgamated Press, Ltd. 2s. 6d.

The work that is being carried on at this fruit farm is probably the best experimental work bearing upon agriculture which is being conducted in England. Why is this? We are inclined to believe it is partly due to the fact that the work is conducted untrammelled by any red tape system of control, and is, as all research should be, promoted by that spirit of investigation natural to some men, which takes shape as it proceeds according to the results obtained. An unexpected result gives birth to a new thought, and this leads to new work which in its turn engenders still fresh thoughts and fresh experiments. In this way, and in this way only, has real progress ever been made, for when research work is limited to one particular method of investigation or to a set scheme the very spirit essential to true progress is killed. The best research work has ever been the spontaneous outcome of individual effort.

The present report deals entirely with insecticides and fungicides.

The authors commence their introductory remarks by drawing an analogy between the use of medicines and insecticides. They say :—

“ The use of both of these is beneficial to the subject, when they are required for some specific purpose, yet, to use them constantly, indiscriminately, and without actual necessity, will generally have the reverse effect. There is probably no insecticide or fungicide which is actually without some deleterious effect on the trees, though this deleterious effect is often much more than counterbalanced by the beneficial results obtained by destroying the parasite. The evil is there nevertheless, and spraying, therefore, should be reduced to the lowest limits, consistent with keeping the trees clean. The continuous use of insecticides should, where possible, be avoided, for it has been found that repeated applications year after year will sometimes cause serious injury, although the application of the same insecticide on isolated occasions may have been to all appearances without ill-effect. It would appear to be much better, and certainly much more economical, to try and get rid of a pest by one or two thorough dressings with a strong insecticide, than to gradually get rid of it by the oft repeated application of a weaker dressing.”

“ Besides investigations on the effect of certain insecticides the present report contains an account of an examination as to the nature of the substances constituting some of the insecticides. Growers may think that this is straying still further from the practical ends in which alone they are interested, but the results will show how erroneous such an opinion would be. An investigation on the nature of ‘emulsions’ has resulted in the introduction of a class of emulsifiers which may be substituted with great advantage for soap and such like substances, especially in cases where soap causes much trouble and inconvenience; whilst an investigation of the chemistry of Bordeaux Mixture has resulted in showing how the cost of that substance may be reduced by three-fifths, without in any way diminishing its effectiveness.”

The various chapters or divisions of the report deal with Bordeaux Mixture, Emulsions, Mussel-scale, Moss and Lichen, Apple Sucker, Apple Mildew, etc. There are interesting articles on the adhesive power of washes, and on the effect of washes. For those who wish to study the subject more deeply, three papers read before the Chemical Society are printed in an appendix. The report is one

that **should** be in the hands of every fruit grower. It is not too technical for the unscientific reader, but is a rare combination of science with clear practical common sense. Take for example the last paragraph of the article on the Apple Sucker, which runs as follows :—

“ There are objections to depending on any form of treatment which has to be applied at one particular time ; for the weather may render spraying impossible, or subsequent rain may destroy the effect when it is too late to repeat the work. It does not appear, however, that a few days earlier or later is of much importance, for the results obtained on May 6th were almost as good as those on April 24th. Naturally, the most suitable date will vary in different seasons ; the aim should be to do the spraying after most of the eggs have hatched, and before the insects have effected an entry into the blossoms.”

Not only will those who study this report learn what to do, and how and when to do it, but they will find suggestions in it which if carried out will soon repay the cost of the report and the time devoted to its study a hundredfold.

9.—*The Practice of Soft Cheese-Making.* By C. W. WALKER-TISDALE and T. R. ROBINSON. London : J. NORTH. 1s.

This is the second edition of a well known little work which was originally published in 1903 and then mentioned in these columns. The book has been revised, extended and elaborated. The authors are of opinion that there is a big demand for the many different varieties of soft cheese, and that this market might be catered for more than at present by home made produce. They consider that if some of the varieties described in their book were placed more frequently upon the Market the public taste would become educated and the consumption would increase, as indeed it has done enormously in the case of many a foreign article no better and often worse than that made at home. The subjects treated are first the production and handling of milk, with special regard to obtaining it free from taint. Milk free from taint is the first essential of successful cheese-making, yet it is the most difficult thing to obtain. The cheese-maker should not only know how to test the milk to detect the presence of a taint, but

also what is the probable cause of the taint and how to avoid it. All these subjects are treated more fully than is usual, and this chapter alone will be found most useful to cheese-makers. The production, composition and properties of cream next receive attention and then, first, the general principles, and, lastly, the special processes of soft cheese-making are considered. Eight varieties of cheese are dealt with in detail. There is a glossary of terms used in dairying which will be found very helpful by pupils. We cannot, however, quite agree with some of the views expressed by the authors in this part of the book. To say that formalin is a non-poisonous milk preservative is going rather far. We are of opinion that formalin is far more poisonous than people generally assume, and that it is productive of most acute indigestion. It is used, unfortunately, far too freely, not merely in milk, but in a great many of our other foods, and it is to be regretted that the recommendation of the Preservative Committee, that this substance should be prohibited, has not been made law. The authors might have pointed out with advantage that no cheese can be made from milk containing a preservative; a fact that is not so well-known as it should be except to those who have had the misfortune of trying to make cheese with such milk. The book is a cheap and useful guide to the subject of soft cheese-making.

10.—*Country Readers*. By H. B. M. BUCHANAN. London :
Macmillan & Co.

In 1904 we drew attention to some of these readers which were then being published. The series now appears to be complete, with the production of three senior readers, following the three junior readers and the "*Lessons on Country Life*," which were written by the author in conjunction with Mr. R. R. C. Gregory. These senior readers have been written in the same lucid style which characterised the previous readers, are equally well, indeed admirably, illustrated, and are in every respect by far the best readers we are acquainted with. The whole series culminates in the senior reader, No. 3, which commencing with the principles of manuring and preparing the seed bed, then treats of the various straw crops, the root crop, pigs and poultry, and finally how to manage with profit a small

grass holding. The information is quite up-to-date and of a most practical character. Take for example that portion of the chapter on wheat, dealing with the conversion of the wheat into bread. Here we find the difference between a strong and weak wheat well described, and why the baker uses foreign wheat to make bread. Then the question is asked, can English wheats be strengthened? The author comes to the conclusion "That if wisdom and knowledge were shown in manuring, cropping, and cultivating the soil, and in sowing good strong seed, the character of our English wheats for milling purposes might be considerably improved" Milling by the old and new methods is described and illustrated, the difference between bakers' bread and home-made bread is explained, and a recipe for the manufacture of the latter is given. Such is only a brief account of one section of this book. It is all equally practical, equally interesting, and calculated to give any intelligent girl or boy a real interest in country life, or if already possessed of that interest a fresh incentive to remain "on the land."

11.—*The Soils of Dorset.*

This is a report, by Dr. C. M. Luxmoore, of Halifax, formerly Professor of Chemistry at the University College, Reading, and it furnishes the analyses of 100 soils taken with a view to sampling the most important agricultural area of the county of Dorset. It is a record of a most remarkably arduous piece of work, and, unfortunately, appears to be published privately, as there is no price attached to it and no publisher's name. To those who are interested in the study of the soil either from its physical or chemical aspect, these results must be invaluable. It is a report suitable for an agricultural chemist rather than a farmer, and yet it contains a vast store of information which goes far to explain many of the apparent eccentricities of field experiments. We have always maintained that to carry out experiments on land the composition and physical properties of which have not been thoroughly studied is simply to work in the dark. It is so easy to carry out so-called "experiments" in the field, to add a little manure to this plot, a little different manure to that plot and then to watch the difference, or weigh the resulting crops. But how much

do we learn by these experiments if we know nothing about the nature of the soil upon which they are conducted? Merely information applicable to that soil in that locality and subject to the particular climatic conditions of a particular season in which the experiment was carried on; we learn very little of fundamental principles unless we can explain why the results were obtained. The fault of this report is that it errs on the other side of being purely scientific, with little or no attempt to show its practical bearing. Thus, in either case, we lose because of an absence of that combination of science with practice which has always been, and must ever be, the only possible means of securing progress in agriculture, or, indeed, in any of those industries which are built up on, or owe their origin to, the use of natural forces. Mr. Ashcroft, in his report on the manure and mutton experiments (p. 115), points out the remarkable effect which has been produced by the application of basic slag to the lime plot, a plot hitherto giving results which were so unsatisfactory as to lead to the conclusion, which many people have probably formed, that the application of lime is useless. Dr. Luxmoore's report, says, with reference to the soils on the chalk: "The organic matter is generally abundant." Does this afford an explanation of the results obtained by the application of basic slag to the lime plot? Has the organic matter in this plot been gradually accumulating during those years in which it has given such poor results, and was it waiting only for the application of phosphates to make its increased fertility shown? Only analysis can prove this, and then only provided that we have the analysis of the soil at the commencement of the experiments. Why do we obtain certain results? is always a more important question than what results shall we obtain? and this report would have ten-fold the value it now possesses if it could have included the results of practical experiments on the soils and then shown the relation of the scientific data to the practical results obtained.

Bath and West and Southern Counties Society.

NEWPORT (MON.) MEETING, 1907.

JUDGES.

HORSES.

- Agricultural.**—A. H. CLARK, Moulton Eugate, Spalding.
Colliery.—T. GRIFFITHS, J.P., Maes Gwyn, Porth, Rhondda.
Hunters.—HON. A. E. PARKER, Norton Curlieu, Warwick.
Hackneys.—SIR GILBERT GREENALL, Bart., Walton Hall, Warrington.
Polo and Riding Ponies.—C. M. PRIOR, Adstock Manor, Winslow, Bucks.
Welsh Mountain Ponies.—W. S. MILLER, Forest Lodge, Brecon.
Harness and Jumping.—Captain R. FORESTIER-WALKER, Ingelburne, Malmesbury.

CATTLE.

- Devon.**—W. KIDNER, Fennington, near Taunton.
South Devon.—W. MERRY, Woodford, Plympton St. Mary.
Shorthorn.—W. F. HOLT BEEVER, Yewden, Henley-on-Thames.
Hereford.—W. THOMAS, The Hayes, Sully, Cardiff.
Sussex.—W. CLIFTON, Priory Farm, Reigate.
Red Polled.—H. BLOFIELD, Morley Manor, Wymondham, Norfolk.
Aberdeen Angus.—P. M. MITCHELL, Wyrley Grove, Pelsall.
Black Welsh.—J. WILLIAMS, Pen-y-bryn, Whitland, R.S.O.
Jersey.—E. MATHEWS, Little Shardeloes, Amersham, Bucks.
Guernsey.—C. D. MARE, Ashwicke, Chelmarsh, Bridgnorth.
Kerry and Dexter.—G. T. BARHAM, Sudbury Park, Wembley, Middlesex.
Dairy Herds.—G. GIBBONS, Tunley Farm, Bath.

SHEEP.

- Cotswold.**—R. JACOBS, Burford, Oxon.
Devon Longwool.—J. H. GIBBINGS, Week Barton, North Tawton, Devon.
Lincoln.—R. C. BEMROSE, Frieston Green, Caythorpe, Grantham.
Southdown.—H. GORRINGE, Kingston-by-Sea, Brighton.
Hampshire Down.—J. DEAN, Chitterne, Codford, Bath.
Shropshire.—R. BROWN, Ruyton Hall, Ruyton XI. Towns, Salop.

Oxford Down.—H. W. STILGOE, The Grounds, Adderbury, near Banbury. Oxon.

Welsh Mountain.—D. PRICE, Bulwark House, Brecon.

Ryelands.—D. PRICE, Bulwark House, Brecon.

Somerset and Dorset Horn.—W. J. CHICK, Stratton, Dorchester, Dorset

PIGS.

Berkshire.—W. T. HALL, Highclere Farm, Newbury.

Large Black.—J. H. GLOVER, Cornwood, Devon.

Large and Middle White.—J. ANGUS, Whitefield, Morpeth.

Tamworth.—Rev. R. S. MITCHESON, Barby Rectory, Rugby.

Any Black.—J. H. GLOVER, Cornwood, Devon.

Any White.—J. ANGUS, Whitefield, Morpeth.

POULTRY.

H. ABBOT, Thuxton, Norfolk.

J. PETTIPHER, Woodway House, near Banbury.

PRODUCE.

Cider.—W. J. GRANT, Pentonville, Newport, Mon.

Cheese.—W. CARY, Cheese Factor, Shepton Mallet.

Butter.—PROFESSOR CARROLL, 1, Rostrevor Terrace, Rathgar.

SHOEING, TIMBERING AND SPLICING, BUTTER-MAKING AND MILKING.

SHOEING.

A. WHEATLEY, F.R.C.V.S., Reading.

F. W. WRAGG, M.R.C.V.S., 17, Church Lane, Whitechapel.

TIMBERING AND SPLICING.

T. GRIFFITHS, Maes Gwyn, Porth, Rhondda.

BUTTER-MAKING.

PROFESSOR CARROLL, 1, Rostrevor Terrace, Rathgar.

B. READ, Church Farm, Cam, Dursley.

MILKING.

J. H. POOLE, Ogbourne Park, Marlborough.

PRIZE AWARDS, 1907.

* * An animal designated in this list as the "reserve number" is entitled, *conditionally* to succeed to any prize that may become vacant in its class by reason of the animal placed above it by the Judges failing afterwards to qualify.

† Animals, where not otherwise stated, may be considered to have been bred by the Exhibitor.

ABBREVIATIONS EXPLAINED:—S., sire; d., dam; s. d., sire of dam; y., year; m., month; w., week; d., day; R., Reserve; V.H.C., Very Highly Commended; H.C., Highly Commended; C., Commended.

HORSES.

FOR AGRICULTURAL PURPOSES.—SHIRE.

(Registered or eligible for registration in the Shire Horse Society's Stud Book)

CLASS 1.—*Shire Stallion, foaled before 1905.* [5 entries.]

I. (£15.)—Sir P. A. MUNTZ, Bart., M.P., Dunsmore, Rugby, bay, **Dunsmore Franklin** (22307), foaled 1903; s Dunsmore Jameson (17972), d Lady Franklin (18438), s d Royal William 2nd (12207).

II. (£10.)—THE KEYNSHAM STUD COMPANY, Amberley Court, Monmouth, bay, **Copped Hall Jameson** (23187), foaled 1904, bred by E. J. Wythes, Copped Hall, Epping; s Dunsmore Jameson (17972), d Upshire Nun (17526, Vols. xv, xviii), s d Engineer 2nd (9300).

R.—VISCOUNT TREDEGAR, Tredegar Park, Newport, Mon., bay, **Thornbury Drayman** (Vol. xxvii), foaled 1904, bred by Mrs. B. Mundy, The Farm, Thornbury, Glos.; s Wharton Drayman (19223), d Hendre Homely (Vol. xxii), s d Homer (16136).

H.C.—H. OAKLEY, Dewstow, near Chepstow, grey, **Dewstow Chancellor** (22288), foaled 1903; s Iron Chancellor (14677), d Cyclamen (21581), s d Harold

CLASS 2.—*Shire Stallion, foaled in 1905.* [13 entries.]

I. (£15.)—F. E. MUNTZ, Umberslade, Hockley Heath, Warwickshire, brown, **King Forest** (Vol. xxviii), bred by H. R. Craig, Welham Lodge, Market Harborough; s Lockinge Forest King (18867), d Lockinge Dimple (29261), s d Lockinge Warrior (15700).

II. (£10.)—Sir P. A. MUNTZ, Bart., M.P., Dunsmore, Rugby, bay, **Dunsmore President** (24208), bred by K. H. Wright, Yelvertott, Rugby; s Dunsmore Jameson (17972), d Southernwood Fiction (20871), s d Blagdon Baron (12790).

III. (£3.)—H. OAKLEY, Dewstow, near Chepstow, bay, **Dewstow Conqueror 2nd**; s Dewstow Conqueror (20427), d Maid of the Mist (22107), s d Vulcan (4145).

R.—P. COATS, Sheepcote, Clifford, Herefordshire, bay, **Dunsmore Prince**, foaled in May, bred by J. P. Toone, High Cross, Rugby; s Lockinge Forest King (18867), d Lady (42423), s d Puckrup Prince Harold (18294).

H.C.—THE KEYNSHAM STUD COMPANY, Amberley Court, Monmouth, bay, **Dunsmore Patriarch** (Vol. xxix), bred by J. Bradley, Halstead, Tilton, Leicester; s Dunsmore Royal Duke (21369), d Halstead Snip (36090), s d Dunsmore Combination (17314).

H.C.—J. W. PHILIPPS, M.P., Lydstep Haven, Penally, R.S.O., Pembroke, grey, **Derly's Marmion**, foaled 6th June, bred by P. and J. Thomas, Derly Court, Carmarthen; s Starborough Chief (21898), d Lady Marmion (18449), s d Marmion 2nd (9885).

CLASS 3.—*Shire Colt, foaled in 1906.* [9 entries.]

I. (£15.)—F. E. MUNTZ, Umberslade, Hockley Heath, Warwickshire, bay, **Maori Jameson**, bred by Fletcher & Andrews, Horninghold, Uppingham; s Dunsmore Jameson (17972), d Hitchin Sunbeam 2nd (20100), s d Nateby Champion (10018).

II. (£10.)—Sir P. A. MUNTZ, Bart., M.P., Dunsmore, Rugby, bay; s Dunsmore Jameson (17972).

III. (£3.)—H. OAKLEY, Dewstow, near Chepstow, bay, **Dewstow Forest King**, bred by Messrs. Kennedy, Ashby Parva; s Lockinge Forest King (18867), d by Nailstone Rising Star (14754).

R.—G. F. CULLIMORE, Mobley Farm, Berkeley, chestnut, **Mobley Raider**, foaled 4th June; s Dunsmore Raider (21367), d Mobley Fanny (42766), s d Blaisdon Conqueror (15989).

CLASS 4.—*Shire Mare and Foal, or in-Foal.* [3 entries.]

I. (£15.)—C. D. PHILLIPS, The Gaer, Newport, Mon., bay, **Blythwood Bounteous** (38154), foaled May, 1900, bred by Sir J. Blyth, Blythwood, Stanstead, Essex; s Blaisdon Conqueror (15989), d Blythwood Bountiful (11607) s d Harold (3703); with foal by Elveden Merry Boy (21394).

II. (£10.)—P. COATS, Sheepcote, Clifford, Herefordshire, bay, in-foal, **Duchess of York** (19855), foaled 1894, bred by A. Grandage, Bramhope, Leeds; s Askham Bar None (8698), d Scarcliffe Amazon (13367), s d Harold (3703).

CLASS 5.—*Shire Filly or Gelding, foaled in 1904.* [2 entries.]

I. (£10.)—F. E. MUNTZ, Umberslade, Hockley Heath, Warwickshire, bay filly, **Aldeby Lady Jameson** (46847), bred by T. J. Cresswell, Fritton End, Long Stratton, Norfolk; s Dunsmore Jameson (17972), d Lady Ingham (32788), s d Boscobel (15002).

R.—F. E. MUNTZ, bay filly, **Danesfield Feathers** (47626), bred by R. W. Hudson, Danesfield, Great Marlow; s Birdsall Menestrel (19337), d Blagdon Feathers (34883), s d Cromwell of Worsley (16096).

CLASS 6.—*Shire Filly or Gelding, foaled in 1905.* [9 entries.]

I. (£10.)—H. OAKLEY, Dewstow, near Chepstow, bay filly, **Dewstow Blossom**, bred by G. G. Atterbury, West Haddon; s Dunsmore Jameson (17972), d Black Blossom, s d Dunsmore Masterman (12874).

Prizes awarded to Horses for Agricultural purposes.

v

II. (25.)—**LORD WINTERSTOKE**, Coombe Lodge, Blagdon, near Bristol, bay filly, **Rickford Ladybird**, bred by J. P. Toone, High Cross, Rugby; s Locking Forest King, d Primula, s d Cathorpe Gauger.

III. (23.)—**F. E. MUNTZ**, Umberslade, Hockley Heath, Warwickshire, black filly, **Ruddington Brunette**, bred by the late P. L. Mills, Ruddington Hall, Nottingham; s Intake Albert (20596), d Hargate Bounce (28829), s d Bury Victor Chief (11105).

R.—**F. O. BOMFORD**, Chirkenhill, Leigh Linton, Malvern, bay filly, **Beaumont Royal Lassie**, bred by W. B. Blundell, Stocking Farm, Leicester; s Dunsmore Jameson (17972), d Beaumont Lassie (46985), s d Dunsmore Masterman (12874).

H.C.—**Mrs. B. MUNDY**, The Farm, Thornbury, Glos., chestnut filly, **Thornbury Vanquisher**, foaled May; s Hendre Conqueror, d Hendre Homely, s d Homer 2nd (16186).

H.C.—**J. W. PHILLIPS**, M.P., Lydstep Haven, Penally, brown filly, **Lydstep Carlotta**, foaled 5th June, bred by Sir P. A. Muntz, Dunsmore, Rugby; s Childwick Don Carlos (21266), d Dunsmore Gazelle (21705), s d Dunsmore Wellington Boy (13021).

CLASS 7.—Shire Filly or Gelding, foaled in 1906. [8 entries.]

I. (210.)—**L. DODD**, Park House, Rushton, Tarporey, Cheshire, black-brown filly, **Rustic Gipsy Queen**, foaled 9th May; s Tatton Friar (21953), d Seldom Found (29968), s d Seldom Seen (15348).

II. (25.)—**Sir P. A. MUNTZ**, Bart, M.P., Dunsmore, Rugby, bay filly, **Dunsmore Queensware** (Vol. xxix), bred by K. H. Wright, Yelvertoft, Rugby; s Dunsmore Jameson (17972), d Southernwood Fiction (20871), s d Blagdon Baron (12790).

III. (23.)—**LORD WINTERSTOKE**, Coombe Lodge, Blagdon, near Bristol, brown filly, **Danesfield Dazzle**, bred by R. W. Hudson, Danesfield, Great Marlow; s Hendre Hydrometer, d Desford Dazzle, s d Mere Duke.

R.—**P. COATS**, Sheepcote, Clifford, Herefordshire, bay filly, **Clifford Belle**, foaled April; s Montford Jupiter (18940), d Clifford Dinah (41433), s d Hendre Wonder (18797).

H.C.—**HON. I. GREVILLE**, Heale House, Woodford, Salisbury, dark brown filly, **Heale Empress**, foaled 9th May; s Dunsmore Jameson (17972), d Dunsmore Heiress (23603), s d Jeroboam (15172).

SPECIAL PRIZES.

OFFERED BY THE SHIRE HORSE SOCIETY.

A Gold Medal, value £10, for the best Mare or Filly in the Shire Horse Classes, under Conditions 48, and to the Breeder of the Winner under the Conditions stated, a prize of £5.

I.—**C. D. PHILLIPS**, The Gaer, Newport, Mon., bay, **Blythwood Bounteous** (38154), foaled May, 1900, bred by Sir J. Blyth, Blythwood, Stanstead, Essex; s Blaisdon Conqueror (15989), d Blythwood Bountiful (11607), s d Harold (3703); with foal by Elveden Merry Boy (21394).

1st R.—Sir P. A. MUNTZ, Bart., M.P., Dunsmore, Rugby, bay filly, **Dunsmore Queensware** (Vol. xxix), bred by K. H. Wright, Yelvertoft, Rugby; s Dunsmore Jameson (1792), d Southernwood Fiction (20871) s d Blagdon Baron (12790).

2nd R.—LORD WINTERSTOKE, Coombe Lodge, Blagdon, near Bristol, bay filly, **Richford Ladybird**, bred by J. P. Toone, High Cross, Rugby; s Lockinge Forest King, d Primula, s d Catthorpe Gauger.

ANY BREED.

(The Prizes in Class 8 and the 2nd and 3rd Prizes in Classes 9, 10 and 11, were given by the Newport Local Committee.)

CLASS 8.—*Cart Mare or Gelding, exceeding 4 years old, suitable for town work and not eligible to compete in the Shire Classes.* [5 entries.]

I. (£7.)—T. SKEATS, Whitchurch, Cardiff, grey gelding, **Hope 1st**.

II. (£3.)—W. WHITING, Hay Merchant, Aberdare, bay gelding, **Aberdare Jumbo**, foaled 1902, bred by G. Blanchard, Danerham, Salisbury; s Cricklade William.

III. (£2.)—W. WHITING & SONS, Hay Merchants, Aberdare, bay, **Gomer**, foaled 21st April, 1899, bred by T. Prout, Milton Farm, Burton Weyland; s Ercall Fame (15597), d Barnlake Mary (19246), s d Big Ben (3459).

R.—J. LEWIS, The Park, Llangibby, Mon., roan, **Ruby**, foaled 5th April, 1903; s Hendre Matchless, d Butterfly, s d Llynellyn Renown.

(The First Prizes in Classes 9, 10 and 11 were given by the Bedwelty Agricultural Society.)

CLASS 9.—*Cart Mare or Gelding, not exceeding 15 hands.* [4 entries.]

I. (£7.)—T. LEWIS, New House, Llangibby, Newport, Mon., brown mare, **Gaer Pearl** (42017), bred by C. D. Phillips, The Gaer, Newport; s Valentine of Hothfield, d Saxon Duchess; in-foal to Warsley Triumph.

II. (£3.)—PARTRIDGE, JONES & Co., LTD., Abersychan, near Pontypool, bay gelding, **The Bantam**, foaled 1902.

III. (£2.)—J. & E. LEWIS, Penrhiw, Blackwood, Mon., bay gelding, **Captain**.

R.—J. & W. BANNER, Fellmongers, Caerleon, Mon., dark bay gelding, **Spider**.

CLASS 10.—*Mare or Gelding, not exceeding 14 hands, suitable for underground work.* [2 entries.]

I. (£7.)—PARTRIDGE, JONES & Co., Ltd., Abersychan, near Pontypool, bay gelding, **The Bantam**, foaled 1902.

II. (£3.)—S. H. BAKER, Lodge Farm, Caerleon, roan gelding, **Jolly**, foaled 15th May, 1903.

CLASS 11.—*Pair of Cart Mares, not exceeding 15.2 hands, suitable for breeding horses for underground work. First prize, £10—second, £4—third, £2.*

[No ENTRY.]

HUNTERS.

Class 12.—Mare and Foal, or in-Foal. [5 entries.]

I. (#15.)—Mrs. A. R. POOLE, King's Hill, Dursley, brown, **Pamela**, foaled March, 1903, bred by E. Ransom, Cattistock Farm, Dorchester; s Pantomime, d Kitty, s d Blue Ruin; with foal by Perfection.

SPECIAL PRIZES.

GIVEN BY THE HUNTERS' IMPROVEMENT SOCIETY, UNDER
CONDITIONS 49.

A Gold Medal, or £5 and a Bronze Medal, for the best Hunter Brood Mare actually registered or entered in the Hunter Stud Book, in Class 12, not having previously won the Hunters' Improvement Society's Gold Medal as a Brood Mare in 1907, and which must produce a living foal in 1907, or have her foal at foot. Only Prize winners in the Class were eligible for the Medal.

I.—Mrs. A. R. POOLE, King's Hill, Dursley, brown, **Pamela**, foaled March, 1903, bred by E. Ransom, Cattistock Farm, Dorchester; s Pantomime, d Kitty, s d Blue Ruin; with foal by Perfection.

OFFERED BY THE IMPERIAL HUNTER STUD BOOK, BOSCOMBE,
HAMPSHIRE.

A Gold Medal, Silver Cup, or £5 in cash, for the Best Hunter Brood Mare and Foal in Class 12, by a Thoroughbred or Hunter Sire registered in Vol. V. of the Imperial Hunter Stud Book. No Mare to take more than one of these prizes in one year. The winner to pass sound and free from hereditary disease on the Show Ground.

[No EXHIBIT.]

CLASS 13.—Hunter Mare or Gelding, foaled before 1903. [4 entries.]

I. (#15.)—J. H. STOKES, Great Bowden, Market Harborough bay gelding, **Biscuit**, foaled 1902.

II. (#10.)—T. L. BENNETT, Cross Hands Hotel, Old Sodbury, brown gelding, **Tipperary**, foaled 1902; s Tacitus, s d Kersey.

R.—S. CODRINGTON, M.R.C.V.S., Chipping Sodbury, brown gelding, **Pattern**, foaled 15th May, 1902; s Louis XIII, d Flower Girl, s d Passion Flower.

CLASS 14.—Hunter Mare or Gelding, foaled in 1903. [4 entries.]

I. (#15.)—J. H. STOKES, Great Bowden, Market Harborough, brown gelding, **Masterpiece**, bred by T. Ayrton, Damas Gill, Quernmore, Fancaster; s Colonial, d Damas Queen (Supp. Vol. ii), s d Carthusian.

II. (#10.)—W. J. TATEM, Shandon, Pen-y-lan, Cardiff, chestnut gelding, **Pen-y-lan Ormerod**, bred by J. Day, Huxham, Shepton Mallet; s Ormes Head, d Marquise.

E—A. M. PILLINER, Llan-yr-avon, Mon., bay gelding, **Auctioneer**, foaled April; s Red Hat, d Miss Tattersall, s d Duke of Burgundy.

CLASS 15.—Hunter Filly or Gelding, foaled in 1904. [6 entries.]

I. (#15.)—W. J. TATEM, Shandon, Pen-y-lan, Cardiff, chestnut gelding, **Pen-y-lan Docker**, bred by T. E. Gilbert, Kilsby, Rugby; s The Docker, d Marchioness, s d Marquis.

II. (#10.)—W. BUTLER, Hordley, Ellesmere, brown gelding, **Ian Hamilton**, foaled April; s Surbiton, d Miss Hamilton, d Hopbine.

III. (#3.)—R. BIRMINGHAM, Badminton, chestnut gelding, **Acrobat**, foaled May, bred by W. R. Emmott, Horton Hall, Gloucestershire; s Alvin, d Empress, s d Cassock.

E—J. H. WATSON, Green Hill, Kidderminster, chestnut gelding, **Juggler**, bred by T. Ayles, Gillingham.

V.H.C.—F. GRIFFITHS, Wayfield, Stratford-on-Avon, chestnut gelding, **Alfred**, bred by J. Pullin, Horton, Chipping Sodbury, Gloucestershire; s Alvin, d Sweet Marie.

C—A. M. PILLINER, Llan-yr-avon, Mon., bay gelding, **The Hatter**, foaled April; s Red Hat, d Wings.

CLASS 16.—Hunter Filly or Gelding, foaled in 1905. [4 entries.]

I. (#10.)—Miss E. L. CLAY, Piercefield Park, Chepstow, bay gelding, **Petrolite**, foaled 25th April; s Lodge, d Limelight, s d Limestone.

II. (#5.)—S. CODRINGTON, M.R.C.V.S., Chipping Sodbury, chestnut gelding, **Baverstone**, foaled 15th June; s Pontifex, d Flower Girl, s d Passion Flower.

E—A. M. PILLINER, Llan-yr-avon, Mon., bay filly, **Miss Tatty**, foaled April; s Red Hat, d Miss Tattersall, s d Duke of Burgundy.

CLASS 17.—Hunter Filly, Colt, or Gelding, foaled in 1906. [4 entries.]

I. (#10.)—J. H. WATSON, Green Hill, Kidderminster, chestnut gelding, **Comedian**, bred by T. Ayles, Gillingham.

II. (#5.)—J. CLARE, Tennis Court Farm, Hallatrow, Bristol, chestnut colt, **Lord Somerset**, foaled 1st May; s Grand National, d Popsey (Supp. Vol. iii), s d Pantomime.

E—Miss E. L. CLAY, Piercefield Park, Chepstow, brown filly, **Starlight**, foaled 6th April; s Lodge, d Limelight, s d Limestone.

SPECIAL PRIZE.

GIVEN BY THE HUNTERS' IMPROVEMENT SOCIETY.

A Silver Medal or £1 (at the option of the Winner), for the best Hunter Mare or Gelding, of any age, not having previously won the Society's Silver Medal under this scheme in 1907, bred by a

thoroughbred or Registered Hunter Sire out of a Registered Mare or a Mare qualified for registration in the next volume, under Conditions 50. Only Prize winners in the classes were eligible for the Medal.

I.—J. H. STOKES, Great Bowden, Market Harborough, brown gelding, **Masterpiece**, bred by T. Ayrton, Damas Gill, Quernmore, Fancaster; s Colonial, d Damas Queen (Supp. Vol. ii), s d Carthusian.

R.—W. BUTLER, Hordley, Ellesmere, brown gelding, **Ian Hamilton**, foaled April; s Surbiton, d Miss Hamilton, d Hopbine.

HACKNEYS.

(Classes 18 to 22 inclusive were confined to Animals registered or eligible for registration in the Hackney Horse Society's Stud Book.)

CLASS 18.—Hackney Mare and Foal, or in-Foal. [2 entries.]

I. (£15.)—W. B. TUBBS, J.P., The Paddock, Mill Hill, London, N.W., chestnut, **Dashing Girl**, foaled 1903, bred by Sir W. Gilbey, Elsenham; s Royal Danegelt (5785), d Bonnie Clara (6419), s d Connaught (1453).

CLASS 19.—Hackney Mare or Gelding, foaled before 1903. [3 entries.]

I. (£10.)—W. B. TUBBS, J.P., The Paddock, Mill Hill, London, N.W., chestnut mare, **Hopwood Clematis** (15876), foaled 1902, bred by F. J. Batchelor, Hopwood, Alvechurch, Worcester; s Rosador (4964), d Muriel (2340), s d Cadet (1251).

II. (£5.)—J. & E. LEWIS, Penrhiw, Blackwood, Mon., dark brown gelding, **Kitchener**, foaled 1901, bred by Sir G. Greenall, Walton Hall, Warrington; s Sir Gibbie (1612), d Lady Kitty (9123), by Sir Horace (5402).

R.—F. CARTER, Butcher, Newport, Mon., roan gelding, **Gordon Cannon**, foaled 5th May, 1902, bred by W. B. Pullin, Ton Farm, Tredunnoch, near Usk; s Lord Daker, s d Lord Bang.

CLASS 20.—Hackney Mare or Gelding, foaled in 1903 or 1904. [3 entries.]

I. (£10.)—W. B. TUBBS, J.P., The Paddock, Mill Hill, London, N.W., chestnut, **Dashing Girl**, foaled 1903, bred by Sir W. Gilbey, Elsenham; s Royal Danegelt (5785), d Bonnie Clara (6419), s d Connaught (1453).

II. (£5.)—J. & T. MATHIAS, Dantwyn Farm, Pontardulais, bay gelding, **Lord Mac**, foaled 4th May, 1903, bred by T. Williams, Llwyngwern, Pontardulais; s Macaulay (7182), d Confidenta, s d Confident.

R.—W. J. TATEM, Shandon, Pen-y-lan, Cardiff, chestnut mare, **Pen-y-lan A M I.**, foaled 1904; s His Majesty (2513), d Dainty Duchess (7745), s d Garton Duke of Connaught (3009).

CLASS 21.—Hackney Filly or Gelding, foaled in 1905. [2 entries.]

I. (#10.)—Sir W. GILBEY, Bart., Elsenham Hall, Essex, chestnut mare, **Lively Birthday** (18371); s Polonius (4931), d Garton Birthday (9970), s d Garton Duke of Connaught (3009).

R.—W. J. TATEM, Shandon, Pen-y-lan, Cardiff, bay mare, **Pen-y-lan Grace**, foaled 8th April; s Garton Duke of Connaught (3009), d Lady Gordon (4089), s d General Gordon (2084).

CLASS 22.—Hackney Filly, Colt, or Gelding, foaled in 1906.
[2 entries.]

I. (#10.)—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, chestnut colt, **Amberley King** (Vol. xxv), bred by W. R. Lysaght, Wyelands Farm Chepstow; s Plantagenet (8968), d Lotus Eater (15262), s d by Rosador (4964).

SPECIAL PRIZE.**GIVEN BY THE HACKNEY HORSE SOCIETY.***A Silver Medal for the best Mare or Filly exhibited in Classes 18 to 22, under Conditions 51.*

I.—W. B. TUBBS, J.P., The Paddock, Mill Hill, London, N.W., chestnut. **Dashing Girl**, foaled 1903, bred by Sir W. Gilbey, Elsenham; s Royal Danegelt (5785), d Bonnie Clara (6419), s d Connaught (1453).

R.—Sir W. GILBEY, Bart., Elsenham Hall, Essex, chestnut mare, **Lively Birthday** (18371); s Polonius (4931), d Garton Birthday (9970), s d Garton Duke of Connaught (3009).

(The Prizes in Class 23 were given by the Newport Local Committee.)

CLASS 23.—Weight Carrying Cob, not exceeding 15 hands, the property of a resident in South Wales or Monmouthshire. [3 entries.]

I. (#7.)—W. J. TATEM, Shandon, Pen-y-lan, Cardiff, black gelding, **Pen-y-lan Sportsman**, foaled 1900.

II. (#3.)—C. D. PHILLIPS, The Gaer, Newport, Mon., chestnut gelding, **Top Hole**, foaled 1901.

PONIES.

(Of the Prizes offered in Classes 24 to 29, £12 was contributed by Lord Tredegar, and £12 by the Welsh Pony and Cob Society.)

CLASS 24.—Stallion, not exceeding 14.2 hands, suitable to get Polo or Riding Ponies. [4 entries.]

I. (#6.)—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, bay, **The Birch** (Sup. P. & R.P.S.B. 1904 and 1905), foaled 5th May, 1904, bred by the Radnorshire Polo and Riding Pony Co., Ltd., The Farm, Bleddfa, Llangunllo, R.S.O., Radnorshire; s Mountain Ash (298), d Schoolmistress (1450), s d Schoolmaster (233).

II. (24.)—THE KEYNSHAM STUD CO., bay, **Mountaineer** (Sup. P. & R.P.S.B. 1904, 1905 and 1906), foaled 10th April, 1904, bred by The Radnorshire Polc and Riding Pony Co., Ltd., The Farm, Bleddfa, Llangunllo, R.S.O., Radnorshire; s Mountain Dew (Vol. xv, p. 87), d Beeswing (1154).

R.—THE KEYNSHAM STUD CO., bay, **Trysting Tree** (Sup. P. & R.P.S.B. 1905 and 1906), foaled 23rd June, 1905, bred by C. H. Taylor, Hampole Priory, near Doncaster; s Mountain Ash (298), d Confidential (934), s d Rosewater (37).

CLASS 25.—*Welsh Mountain Stallion, not exceeding 12.2 hands entered previous or subsequent to exhibition in the Welsh Pony and Cob Society's Stud Book.* [7 entries.]

I. (26.)—J. M. DUGDALE, Llwyn Stud Farm, Llanfyllin, S.O., black, **Llwyn Blackbird**, foaled 1901, bred by G. Jones, Tyntwlt, Llanfyllin.

II. (24.)—J. JAMES, Monachdy Farm, Ynysybwl, grey, **Skylight**, bred by M. Lloyd, Llanwrda, Cermersblathon; s Starlight, d Brownie.

CLASS 26.—*Mare, not exceeding 14.2 hands, suitable to breed Polo or Riding Ponies, in-Foal, or with Foal at foot.* [5 entries.]

I. (26.)—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, bay, **The Pheasant** (1464), foaled 1893; with foal by Rupert (308).

II. (24.)—THE KEYNSHAM STUD CO., dark chestnut, **Ohmy 2nd** (1600), foaled 1900; s Mootrub (32), d Ohmy (425), s d Belgrave (Vol. xiii, p. 39; with foal by Senior Wrangler (Sup. P. & R.P.S.B. 1904, 1905 and 1906).

R.—MRS. A. R. POOLE, King's Hill, Dursley, chestnut, **Seagull**, foaled 11th August, 1901, bred by H. Raikes, Mynte Farm, Corsham, Wilts; s Sea Dog (Vol. xix, p. 306), d Coffee Cooler (Vol. xviii, p. 35), by Enterprize; with foal by Rudheath.

CLASS 27.—*Welsh Mountain Mare, barren or in-Foal, not exceeding 12.2 hands, entered previous or subsequent to exhibition in the Welsh Pony and Cob Society's Stud Book.* [9 entries.]

I. (26.)—J. M. DUGDALE, Llwyn Stud Farm, Llanfyllin, S.O., black, **Llwyn Jenny** foaled 1903; s Llwyn George (W.S.B. 46), d Llwyn Jessie (W.S.B. 147); with foal by Llwyn By George.

II. (24.)—W. C. GRIFFITHS, Bryn House, Pontardulais, dark brown, **Gwladys**, foaled 1898, bred by — Morgans, near Llandovery; with foal by Little Adonis.

III. (22.)—MRS. H. D. GREENE, Grove, Craven Arms, R.S.O., Salop, bay **Grove Starling**, foaled 1904, bred by The Radnorshire Riding and Polo Pony Society, Bleddfa, Radnorshire; s Bleddfa Shooting Star (W.S.B. 73), d Longmynd Princess.

R.—MRS. H. D. GREENE, dark grey, **Grove Gwenda**, foaled 1903, bred by — Jones, Weals House, Newcastle, Clun; s Forest Lad.

CLASS 28.—*Filly, Colt, or Gelding, foaled in 1904, not exceeding 14.2 hands. [3 entries.]*

I. (#6.)—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, bay, **The Birch** (Sup. P. & R.P.S.B. 1904 and 1905), foaled 5th May, 1904, bred by The Radnorshire Polo and Riding Pony Co., Ltd., The Farm, Bleddfa, Llangunllo, R.S.O., Radnorshire; s Mountain Ash (298), d Schoolmistress (1450), s d Schoolmaster (233).

II. (#4.)—THE KEYNSHAM STUD CO., bay, **Mountaineer** (Sup. P. & R.P.S.B. 1904, 1905 and 1906), foaled 10th April, 1904, bred by The Radnorshire Polo and Riding Pony Co., Ltd., The Farm, Bleddfa, Llangunllo, R.S.O., Radnorshire; s Mountain Dew (Vol. xv, p. 87), d Beeswing (1154).

E.—THE KEYNSHAM STUD CO., chestnut filly, **Whitelight 2nd** (Sup. P. & R.P.S.B. 1906), foaled 27th May, bred by H. Wiseman, Wine Street, Bristol; s Whitehall (Vol. xvi, p. 242), d Light Hunter (2736), s d Muncaster (Vol. xiv, p. 493).

CLASS 29.—*Filly, Colt, or Gelding, foaled in 1905, not exceeding 14.0 hands. [5 entries.]*

I. (#6.)—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, bay, **Trysting Tree** (Sup. P. & R.P.S.B. 1905 and 1906), foaled 23rd June, 1905, bred by C. H. Taylor, Hampole Priory, near Doncaster; s Mountain Ash (298), d Confidential (934), s d Rosewater (37).

II. (#4.)—THE KEYNSHAM STUD CO., bay filly, **Blue Stocking** (Sup. P. & R.P.S.B. 1905), foaled 30th May, bred by the late Lieut.-Col. A. Gould, Salcey Lawn, Northampton; s Schoolmaster (233), d Emmeline (1385).

E.—MRS. A. R. POOLE, King's Hill, Dursley, bay filly, **Seaweed**, foaled 18th April; s Royal Rosebud (371) (Vol. viii, p. 10, 1903 Sup.), d Seagull (1624) (Vol. viii, p. 26, 1903 Sup.), s d Seadog (Vol. xix, p. 306).

SPECIAL PRIZES GIVEN BY THE POLO AND RIDING PONY SOCIETY
(Subject to Conditions No. 53).

A Silver Medal for the best Polo Pony Brood Mare, registered or eligible for registration in the Stud Book.

I.—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, bay, **The Pheasant** (1464), foaled 1893; with foal by Rupert (308).

E.—THE KEYNSHAM STUD CO., dark chestnut, **Ohmy 2nd** (1000), foaled 1900; s Mootrub (32), d Ohmy (425), s d Belgrave (Vol. xiii, p. 39); with foal by Senior Wrangler (Sup. P. & R.P.S.B. 1904, 1905 and 1906).

A Silver Medal for the best Polo Pony Stallion, registered or eligible for registration in the Stud Book; or best Polo Pony Entire Colt, one, two or three years old.

I.—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, bay, **The Birch** (Sup. P. & R.P.S.B. 1904 and 1905), foaled 5th May, 1904, bred by the Radnorshire Polo and Riding Pony Co., Ltd., The Farm, Bleddfa, Llangunllo, R.S.O., Radnorshire; s Mountain Ash (298), d Schoolmistress (1450), s d Schoolmaster (233).

R.—THE KEYNSHAM STUD Co., bay, **Mountaineer** (Sup. P. & R.P.S.B., 1904, 1905 and 1906), foaled 10th April, 1904, bred by the Radnorshire Polo and Riding Pony Co. Ltd., The Farm, Bleddfa, Llangunllo, R.S.O., Radnorshire : s Mountain Dew (Vol. xv, p. 87), d Beeswing (1154).

A Silver Medal for the best Polo and Riding Pony, not exceeding 14.2 hands, with Hurlingham certificate or confirmed by that of a qualified Veterinary Surgeon, owned by a Member of the Polo and Riding Pony Society.

L.—THE KEYNSHAM STUD Co., Amberley Court, Monmouth, bay filly, **Blue Stocking** (Sup. P. & R.P.S.B. 1905), foaled 30th May, bred by the late Lieut.-Col. A. Gould, Salcey Lawn, Northampton ; s Schoolmaster (233), d Emmeline (1385).

R.—THE KEYNSHAM STUD Co., chestnut filly, **Whitelight 2nd** (Sup. P. & R.P.S.B., 1906), foaled 27th May, bred by H. Wiseman, Wine Street, Bristol ; s Whitehall (Vol. xvi, p. 242), d Light Hunter (2736), s d Muncaster (Vol. xiv, p. 493).

HARNESS AND JUMPING CLASSES.

HARNESS.

CLASS 30.—*Mare or Gelding, not over 14.2 hands, driven in harness on the first day of the Show.* [4 entries.]

I. (#10.)—T. E. JERMAN, 92, High Street, Dowlais, chestnut gelding, **Pinderfield Ruby**, foaled 1889.

II. (#5.)—D. REES JONES, 64, Ynyslwyd Street, Aberdare, brown mare, **Alice Garton** ; s President Roosevelt, d Argon Mustard, s d Mathias.

R. and Special*—S. BATTEN, 56, Tudor Road, Cardiff, chestnut mare, **Lady Cardigan**, foaled 1902, bred by Mrs. E. Morris, Brogan Mills, Kilgerran ; s Myrtle Gentleman, s d Cardigan Meteor (62 W.S.B.)

CLASS 31.—*Tandems (Mares or Geldings), driven in harness on the first day of the Show.* [1 entry.]

I. (#10.)—A. J. BUTCHER and R. I. WEIGHT, Victoria Hotel and St. George's, Bristol.

CLASS 32.—*Mare or Gelding, 15 hands or over, driven in harness on the second day of the Show.* [5 entries.]

I. (#10.)—W. JONES, Heathlands, Cardiff, dark chestnut gelding, **Duke of Bentons**, foaled 1900 ; s Doncaster (2949), d Heelrow (3914), by Royal George (683).

* Given by the Hackney Horse Society, a Gold Medal for the best Mare or Gelding exhibited in Single Harness in Classes 30 to 37. subject to Conditions 51, or a prize of £5.

II. (£5.)—J. and T. MATHIAS, Dantwyn Farm, Pontardulais, bay gelding. **Lord Mac**, foaled 4th May, 1903, bred by T. Williams, Llwyngwern, Pontardulais; s Macaulay (7182), d Confidentia, s d Confident.

R.—T. L. HANDFORD, Norwood, Stow Park Avenue, Newport, grey gelding. **Jim**, foaled 1902.

CLASS 33.—*Pair of Carriage Horses (Mares or Geldings), driven in double harness on the second day of the Show.* [1 entry.]

I. (£10.)—A. J. BUTCHER and R. I. WEIGHT, Victoria Hotel and St. George's, Bristol.

CLASS 34.—*Mare or Gelding, over 14.2 and under 15 hands, driven in harness on the third day of the Show.* [4 entries.]

I. (£10.)—A. J. BUTCHER, Victoria Hotel, Bristol.

II. (£5.)—W. J. TATEM, Shandon, Pen-y-lan, Cardiff, chestnut gelding. **Pen-y-lan Connaught** (8601), foaled 1902, bred by H. B. Cory, Druidstone. Castleton, Cardiff; s Gay Connaught (6020), d Lady Gordon (4908), s d General Gordon (2084).

R.—R. I. WEIGHT, St. George's, Bristol.

CLASS 35.—*Trotting. Best Mare, Stallion, or Gelding, under 15 hands, for speed and action, driven in harness on the third day of the Show.* [3 entries.]

I. (£10.)—T. H. DAVIES, 14, Upper Regent Street, Aberdare, brown mare, **Maggie**.

II. (£5.)—S. BATTEN, 56, Tudor Road, Cardiff, chestnut mare, **Lady Cardigan**, foaled 1902, bred by Mrs. E. Morris, Brogan Mills, Kilgerran; s Myrtle Gentleman, s d Cardigan Meteor (62 W.S.B.)

R.—T. VAISEY, Cwmyniscoy, Pontypool, bay, **Welsh Kitty**, foaled 1903.

CLASS 36.—*Mare or Gelding, not over 13.2 hands, driven in harness on the fourth day of the Show.* [5 entries.]

I. (£10.)—G. GRIFFITHS, Cape Hill, Smethwick.

II. (£5)—T. E. JERMAN, 92, High Street, Dowlais, chestnut gelding, **Pinderfield Ruby**, foaled 1899.

R.—T. J. MATHIAS, Llyn-y-Felin, Cardigan, brown, **Queen of the South**, bred by — Hollins, Berry Hill Stud; s Snorter.

CLASS 37.—*Trotting. Best Mare, Stallion or Gelding, 15 hands or over, for speed and action, driven in harness on the fourth day of the Show.* [3 entries.]

I. (£10.)—H. C. WALTON, The Model Farm, West Malvern, roan mare, **Flashlight**.

II. (25.)—J. WILLIAMS, Forge and Hammer Hotel, Pontnewynydd, Pontypool, bay gelding, **Honest Tom**, foaled 14th May, 1899, bred by E. Williams, Victoria Hotel, Barry Dock ; s St. Fagan's Boy, d Laura.

R.—T. H. DAVIES, 14, Upper Regent Street, Aberdare, brown, **Nobby**.

(The Prizes in Class 38 were given by Charles D. Phillips, Esq., J.P., Chairman of Local Committee.

CLASS 38.—*Donkey, the property of a resident in South Wales or Monmouthshire, driven in harness on the fourth day of the Show.* [2 entries.]

I. (23.)—W. PRICE, 48, Hoskins Street, Newport, Mon., black mare, **Jenny**.

II. (22.)—W. PRICE, black gelding, **Billy**, foaled 1903.

(The Prizes in Class 39 were given by the Newport Licensed Victuallers' Association.)

CLASS 39.—*Mare or Gelding, over 14.2 hands, the bona fide property of a Tradesman of the Borough of Newport, to have been owned and used by him for two months previous to the opening of the Show on his daily rounds for business purposes ; exhibited in the Cart and Harness in which it had been regularly driven on the fifth day of the Show.* [6 entries.]

I. (26.)—E. FENNELL & SONS, High Street, Newport, black gelding, **Messenger Boy**, foaled 1900.

II. (23.)—J. REES JONES, 176, Commercial Road, Newport, Mon., bay, with white points, hind legs, mare, **Bonny**.

III. (21 10s.)—J. EDWARDS, 177, Corporation Road, Newport, Mon., light bay gelding, **Coronation**, foaled 9th May, 1901.

R.—H. A. SMITH, Wine and Spirit Merchant, Newport, black mare, **Bess**, foaled 1901.

(The Prizes in Classes 40 to 42 were given by the Newport Local Committee.)

CLASS 40.—*Heavy Mare or Gelding used for general business purposes, the property of a resident in South Wales or Monmouthshire, driven in trade cart (not dog cart or carriage) on the fifth day of the Show.* [4 entries.]

I. (27.)—W. WHITING & SONS, Hay Merchants, Aberdare, bay, **Gomer**, foaled 21st April, 1899, bred by T. Prout, Milton Farm, Burton Weyland ; s Ercall Fame (15597), d Barnlake Mary (19246), s d Big Ben (3459).

II. (23.)—W. WHITING, Hay Merchant, Aberdare, bay gelding, **Aberdare Jumbo**, foaled 1902, bred by G. Blanchard, Danerham, Salisbury ; s Cricklade William.

III. (22.)—S. M. WILLIAMS, Trosnant Stores, Pontypool, brown mare, **Polly**, foaled May, 1901.

CLASS 41.—*Light Mare or Gelding used for general purposes, the property of a resident in South Wales or Monmouthshire, driven in trade cart (not dog cart or carriage) on the fifth day of the Show.* [12 entries.]

I. (27).—S. BATTEN, 56, Tudor Road, Cardiff, chestnut mare, **Lady Cardigan**, foaled 1902, bred by Mrs. E. Morris, Brogan Mills, Kilgerran; s Myrtle Gentleman, s d Cardigan Meteor (62 W.S.B.)

II. (23).—T. E. JERMAN, 92, High Street, Dowlais, roan, **Lord Grey**, foaled 1901.

III. (22).—W. JESSEMAN & Co., 117, Dock Street, Newport, black mare, **Mischief**, foaled May, 1899, bred by — Morgan, Ponthir.

R.—E. FENNELL, 128, Queen Street, Cardiff, bay mare, **Lady Veda**.

V.H.C.—R. A. LEWIS, The Oak, Bettws, Mon., bright bay mare, **Flirt**, foaled 1902.

CLASS 42.—*Pony Mare or Gelding, not exceeding 13 hands, the property of a resident in South Wales or Monmouthshire, driven in harness on the fifth day of the Show.* [4 entries.]

I. (27).—E. JONES, Manoravon, Llandilo, bay mare, **Fashiodant**, foaled 1903; s Confidant (936), d Grey Fashion (Vol. xxv), s d Towyvale Squire (7299).

II. (23).—D. REES, Llwynygrant, Pen-y-lan, near Cardiff, chestnut gelding, **Birdie**; s Birdsmen, d Favourite, s d Trotting Briton.

III. (22).—F. S. EDWARDS, 41, Malpas Road, Newport, Mon., bay, **None the Wiser**, foaled May, 1899; s Hambletonian, d Intelligence, s d Great Hampton.

R.—W. M. JONES, Penschedan Farm, Bassaleg, near Newport, Mon., chestnut gelding, **Bob**.

(The Prizes in Class 43 were given by T. Morgan, Esq., President of the Newport Butchers' and Cattle Dealers' Association.)

CLASS 43.—*Butcher's Turn-out, horse, trap and harness, that had been used in Newport for at least six months previous to the Show. Driven on the fifth day of the Show.* [11 entries.]

I. (23).—F. CARTER, Bridge Street, Newport.

II. (22).—F. S. EDWARDS, 41, Malpas Road, Newport, Mon., bay, **None the Wiser**, foaled May, 1899; s Hambletonian, d Intelligence, s d Great Hampton.

III. (21).—J. EDWARDS, 177, Corporation Road, Newport, Mon., light bay gelding, **Coronation**, foaled 9th May, 1901.

R.—E. J. POOLE & SONS, Newport, bay, gelding, **Jack**, foaled 1904.

H.C.—G. E. POOLE, 119, Commercial Street, Newport, Mon., cream filly, **Polly**, foaled 1904, bred by J. F. Harris, Caerleon; s Colonial, d Judy.

JUMPING.

CLASS 44.—*Mare or Gelding, 15 hands and over, jumping in the best form on the first day of the Show.* [8 entries.]

I. (£10.)—J. GLENCROSS, North End Stables, Bridge Street, Frome, **Nomination.**

II. (£5.)—W. SINGER, Woodcock Farm, Frome, chestnut mare, **Miss Dainty.**

III. (£2.)—J. WHEELER, Shakespeare Farm, Studley, **Royal Enfield.**

R.—T. GLENCROSS, Garth House, Frome, Somerset, bay, **Village Girl.**

CLASS 45.—*Mare or Gelding, under 15 hands, jumping in the best form on the first day of the Show.* [8 entries.]

I. (£10.)—W. GRUNDY, 30, Broad Street, Worcester, **Stratford Lass.**

II. (£5.)—WHITTINGHAM BROS., Wellington Street, Burton-on-Trent, grey mare, **Snowdrop.**

III. (£2.)—R. TUGWELL, Tetbury, Gloucestershire, brown mare, **Dainty.**

R.—T. GLENCROSS, Garth House, Frome, Somerset, bay, **Kitty.**

CLASS 46.—*Mare or Gelding, 15.3 hands and over, jumping in the best form on the second day of the Show.* [7 entries.]

I. (£10.)—J. WHEELER, Shakespeare Farm, Studley, **Royal Enfield.**

II. (£5.)—T. SINGER, High House Farm, Corsley, Warminster, Wilts, bay gelding, **Novice.**

III. (£2.)—J. GLENCROSS, North End Stables, Bridge Street, Frome, **Nomination.**

R.—W. GRUNDY, 30, Broad Street, Worcester, **Nomination.**

CLASS 47.—*Mare or Gelding, under 15.3 hands, jumping in the best form on the second day of the Show.* [10 entries.]

I. (£10.)—T. GLENCROSS, Garth House Frome, Somerset, bay mare, **Blink Bonny.**

II. (£5.)—W. SINGER, Woodcock Farm, Frome, chestnut mare, **Miss Dainty.**

III. (£2.)—T. GLENCROSS, bay, **Kitty.**

R.—W. GRUNDY, 30, Broad Street, Worcester, **Stratford Lass.**

CLASS 48.—*Mare or Gelding, 15 hands and over, jumping in the best form, on the third day of the Show.* [8 entries.]

I. (£10.)—W. SINGER, Woodcock Farm, Frome, chestnut mare, **Miss Dainty.**

II. (£5.)—J. WHEELER, Shakespeare Farm, Studley, **Royal Enfield.**

III. (£2.)—W. GRUNDY, 30, Broad Street, Worcester, **Nomination.**

R.—R. Eykyn, Pontrilas, Hereford, brown mare, **Mary, 5y.**

CLASS 49.—*Mare or Gelding, under 15 hands, jumping in the best form on the third day of the Show.* [8 entries.]

I. (£10.)—WHITTINGHAM BROS., Wellington Street, Burton-on-Trent, grey mare, **Snowdrop**.

II. (£5.)—W. GRUNDY, 30, Broad Street, Worcester, **Stratford Lass**.

III. (£2.)—W. H. FLETCHER, Horse and Jockey, Pontypool, black, **Black Bess**.

R.—W. GRUNDY, **Boscombe Lass**.

CLASS 50.—*Mare or Gelding, 15.3 hands and over, jumping in the best form on the fourth day of the Show.* [8 entries.]

I. (£10.)—A. H. JONES, 55, Upper Thomas Street, Merthyr Tydfil, bay mare, **Molly Samore**.

II. (£5.)—J. WHEELER, Shakespeare Farm, Studley, **Royal Enfield**.

III. (£2.)—W. GRUNDY, 30, Broad Street, Worcester, **Nomination**.

R.—T. SINGER, High House Farm, Corsley, Warminster, Wilts, bay gelding, **Novice**.

CLASS 51.—*Mare or Gelding, under 15.3 hands, jumping in the best form on the fourth day of the Show.* [11 entries.]

I. (£10.)—W. GRUNDY, 30, Broad Street, Worcester, **Boscomb Lass**.

II. (£5.)—WHITTINGHAM BROS., Wellington Street, Burton-on-Trent, grey mare, **Snowdrop**.

III. (£2.)—W. SINGER, Woodcock Farm, Frome, chestnut mare, **Miss Dainty**.

R.—R. TUGWELL, Tetbury, Gloucestershire, brown mare, **Dainty**.

CLASS 52.—*Mare or Gelding, 15 hands and over, jumping in the best form on the fifth day of the Show.* [9 entries.]

I. (£10.)—T. SINGER, High House Farm, Corsley, Warminster, Wilts, bay gelding, **Novice**.

II. (£5.)—W. SINGER, Woodcock Farm, Frome, chestnut mare, **Miss Dainty**.

III. (£2.)—A. H. GUNN, St. Mellons, Monmouthshire, bay gelding, **Stag**.

R.—T. E. THOMAS, Trehale, Pembrokeshire, bay gelding, **Rolypoly**, foaled 1st May, 1902; s Utility.

CLASS 53.—*Mare or Gelding, under 15 hands, jumping in the best form on the fifth day of the Show.* [10 entries.]

I. (£10.)—R. TUGWELL, Tetbury, Gloucestershire, brown mare, **Dainty**.

II. (£5.)—W. GRUNDY, 30, Broad Street, Worcester, **Stratford Lass**.

III. (£2.)—W. GRUNDY, **Boscombe Lass**.

R.—A. H. JONES, 55, Upper Thomas Street, Merthyr Tydfil, bay mare, **Edna May**.

CATTLE.

DEVON.

CLASS 54.—*Devon Cow, in-Milk, calved before 1904.* [3 entries.]

I. (410.)—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, **Spinach** (19654), born 6th January, 1900, bred by Viscount Portman, Bryanston, Blandford; s Jeff (3598), d Spinney (15886), s d Kaiser (3602).

CLASS 55.—*Devon Heifer, in-Milk, calved in 1904.* [5 entries.]

I. (410.)—E. C. NORRISH, Sandford, Crediton, **Capton Royal Sally** (19867), born 21st April, bred by A. Bowerman, Williton, Somerset; s Royalist 2nd of Pound (3807), d Sally (15571), s d Starlight (3514).

II. (25.)—SIR F. WILLS, Bart., Northmoor, Dulverton, **Northmoor Lorna** (20506), born 21st January, bred by R. W. C. Evered, Burnham; s Favourite (4764), d Miss Lyddon 6th (18817).

R.—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, **Favourite 2nd** (20250), born 14th March, bred by the Hon. C. B. Portman, Goldicote, Stratford-on-Avon; s Tea Planter (4677), d Favourite (17833), s d Whitstone Commander-in-Chief (3670).

CLASS 56.—*Devon Heifer, calved in 1905.* [5 entries.]

I. (410.)—T. S. MORGAN, Whimble, Exeter, Devon, **Whimble Broadhorn 1st** (20846), born 4th January; s Pound Mayor (4850), d Broadhorn 4th (17729), s d Gaylad (3589).

II. (25.)—T. DIBBLE, Shopnoller, Bagborough, Taunton, **Lady Escott 4th** (20657), born 9th May; s Councillor (3407), d Lady Escott 2nd (18788), s d True Blue (4121).

R.—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, **Cothelstone Patience** (20708), born 11th January, bred by C. L. Hancock, Cothelstone, Taunton; s Chairman (4362), d Fairfield Prudence (15681), s d Camekeeper (3438).

CLASS 57.—*Devon Heifer, calved in 1906.* [9 entries.]

I. (410.)—E. CLATWORTHY, Cutsey, Wellington, Somerset, **Cutsey Beauty**, born 23rd January; s Bickley Opal (4533), d Brassy 5th, s d Duke of Thorverton.

II. (25.)—E. C. NORRISH, Sandford, Crediton, **True Type 8th** (21554), born 6th June; s Capton Field Marshal (4918), d Gay True Type 3rd (18368), s d Christmas Present (4005).

III. (32.)—T. S. MORGAN, Whimble, Exeter, Devon, **Whimble Kitty 4th** (21515), born 6th January; s Pound Mayor (4850), d Whimble Kitty 2nd (19574), s d Hestercombe Redlight (4417).

R.—C. L. HANCOCK, The Manor Farm, Cothelstone, Taunton, **Cothelstone Bridget** (Vol. xxx), born 3rd January; s Rufus (5370), d Cothelstone Bridecake (18841), s d Lord Culverhay (3469).

H.C.—C. L. HANCOCK, **Cothelstone Peony**, born 3rd January; s Rufus (5370), d Cothelstone Pink (19459), s d Lord Culverhay (3469).

C.—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, **Lady Coot** (21647), born 27th March, bred by W. Lutley, Escott, Carhampton, Taunton; s Crusader (4954), d Lovely 34th (18335), s d Lord Escott 5th (4437).

CLASS 58.—Devon Bull, calved in 1903 or 1904. [4 entries.]

I. (£10.)—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, **Pound Pink 'un** (5350), born 4th January, 1904, bred by the late A. C. Skinner; s Councillor (3407), d Pink 17th (19064), s d Wilscombe (3679).

II. (£5.)—S. KIDNER, Bickley, Milverton, Somerset, **Bickley Quaker**, born 23rd May, 1903; s Magna Charta of Pound (4446), d King Cole's Fairy (16899), s d King Cole (3758).

R.—C. L. HANCOCK, The Manor Farm, Cothelstone, Taunton, **Rufus** (5370), born 30th October, 1903; s Tosti (4680), d Lady Bright 3rd (17557), s d Councillor (3407).

CLASS 59.—Devon Bull, calved in 1905. [2 entries.]

I. (£10.)—R. BRUFORD, Nerrols, Taunton, **Pound Bellringer**, born 30th May, bred by the late A. C. Skinner, Pound, Bishop's Lydeard, Taunton; s Councillor (3407), d Belle of Park (13570), s d Good Boy (2414).

R.—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, **Broker** (5439), born 6th February, bred by Col. A. F. Walter, Bear Wood, Wokingham; s Bear Wood Coronation (4708), d Fairfield Picture (15680), s d Gamekeeper (3438).

CLASS 60.—Devon Bull, calved in 1906. [6 entries.]

I. (£10.)—T. S. MORGAN, Whimble, Exeter, Devon, **Bean Pilot** (Vol. xxx), born 1st January, bred by A. Bowerman, Capton Farm, Williton, Somerset; s Bean Planter (4139), d Moss Rose 24th of Pound, s d Compensator (2942).

II. (£5.)—SIR F. WILLS, Bart., Northmoor, Dulverton, **Northmoor Royal**, born 18th February; s Pound Mayor (4850), d Hursley Fancy 5th (18088).

III. (£2.)—E. C. NORRISH, Sandford, Crediton, **Fanatic**, born 29th April; s Capton Field Marshal (4918), d Fancy 27th (18348), s d Union Jack (4684).

R.—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, **Hestercombe Flip**, born 17th February; s Musician (4830), d Bear Wood Flirt (19165), s d Lord Pitsworthy (4440).

SOUTH DEVON.

CLASS 61.—South Devon Cow, in-Milk, calved before 1904. [5 entries.]

I. (£10.)—BUTLAND BROS., Leigham, Plympton, Devon, **Handsome** (4040, S.D.H.B.), born 27th March, 1900, bred by B. Butland, Leigham, Plympton, Devon; s Cromer (969, S.D.H.B.), d Beauty 1st (1000), s d Melton.

II. (25.)—B. LUSCOMBE, South Langston, Aveton Gifford, **Dairymaid 4th** (4159), born 2nd November, 1900; s General Buller (1138), d Dairymaid 3rd (1703), s d Duke of Devon.

R.—W. P. VOSPER, Merafield, Plympton, Devon, **Laura**, born 20th February, 1903; s Drummer (975), d Cowslip 4th (3923), s d Prince Edward (517).

CLASS 62.—*South Devon Heifer, calved in 1904 or 1905.* [7 entries.]

I. (210.)—W. P. VOSPER, Merafield, Plympton, Devon, **Lady Molly**, born 16th February, 1905; s Lord Roberts (1328), d Cowslip 4th (3923), s d Prince Edward (517).

II. (25.)—BUTLAND BROS., Leigham, Plympton, Devon, **Beauty 9th** (6385), born 2nd January, 1905, bred by B. Butland, Leigham, Plympton; s Leigham Champion (1667), d Beauty 2nd (3083), s d Rainbow 2nd (520).

III. (22.)—BUTLAND BROS., **Handsome 3rd** (6392, S.D.H.B.), born 3rd April, 1905, bred by B. Butland, Leigham, Plympton; s Leigham Champion (1667), d Handsome (4040), s d Cromer (969).

CLASS 63.—*South Devon Heifer, calved in 1906.* [8 entries.]

I. (210.)—BUTLAND BROS., Leigham, Plympton, **Handsome 4th**, born 15th March; s Leigham Champion (1667), d Handsome (4040), s d Cromer (969).

II. (25.)—BUTLAND BROS., **Beauty 11th**, born 2nd March; s Leigham Champion (1667), d Beauty 6th (5262), s d Saltram (1220).

III. (22.)—W. P. VOSPER, Merafield, Plympton, **Nelly Neil**, born 12th June; s Lord Roberts (1328), d Maud (5679), s d Drummer (975).

R.—J. M. BENNETTS, Killiganoon, St. Feock, Cornwall, **Jovial's Primrose**, born 28th April; s Jovial (1907), d Primrose 4th (4191), s d Prince Imperial (1044).

H.C.—W. WHITLEY, Primley, Paignton, **Queenie**, born 2nd May; s Saltram (1220), d Fancy (3321), s d Prince (658).

CLASS 64.—*South Devon Bull, calved in or before 1904.* [3 entries.]

I. (210.) and Champion*—J. S. WROTH, Coombe Aveton, Gifford, South Devon, **Macbeth** (1924), born 10th May, 1903; s Duke of York (1439), d Netta 3rd (3653), s d Marmion (631).

II. (25.)—W. J. CROSSING, Woodford, Plympton, Devon, **Coleridge Hero**, born 6th January, 1901, bred by T. S. W. Symons, Chillington, Kingsbridge; s Langstone Lad (1006), d Dandy 2nd (2713), s d Grandam Dandy (875).

CLASS 65.—*South Devon Bull, calved in 1905.* [1 entry.]

I. (210.)—B. LUSCOMBE, South Langston, Aveton Gifford, Kingsbridge, **Masher's Masterpiece**, born 4th May; s Masher (769), d Queenie 2nd (4165), s d Exhibitor.

* Given by the Town of Devonport, "The Devonport Challenge Cup" (value £52 10s.) for the best Bullock (Bul, Cow, or Heifer) in the South Devon Classes. The Cup to be won two years in succession or three years at intervals before becoming the absolute property of the winner.

CLASS 66.—*South Devon Bull, calved in 1906. [3 entries.]*

I. (£10.) and **E** for Champion*—**B. LUSCOMBE**, South Langstone, Aveton Gifford, Kingsbridge, **Lord Masher**, born 9th January; s **Masher** (769), d **Primrose** (4529), s d Exhibitor.

II. (£5.)—**W. P. VOSPER**, Merafield, Plympton, Devon, **Prince of Orange**, born 27th February; s **Lord Roberts** (1328), d **Cowslip 4th** (3923), s d **Prince Edward** (517).

E.—**J. M. BENNETTS**, Killiganoon, St. Feock, Cornwall, **Jovial Peer**, born 2nd May; s **Jovial** (1907), d **Peeress** (4189), s d **Clear-the-Way** (851).

SHORTHORN.

(The First Prize in Class 67 was given by the Shorthorn Society.)

CLASS 67.—*Shorthorn Pedigree Dairy Cow in Milk, four years old and upwards on April 17, eligible for and entered in Coates's Herd Book, or Pedigree sent for such entry previous to the Show, and not having previously won a similar prize offered by the Shorthorn Society in 1907, to be milked in the ring before judging, under Conditions 63. [6 entries.]*

I. (£10.)—**LORD ROTHSCHILD**, Tring Park, Herts, red, **Dorothy**, born 25th April, 1901; s **Wild Roy** (78182), d **Darlington Cranford 4th** (Vol. xlvii. p. 755), s d **Lord Somerset Furbelow** (65855).

II. (£5.)—**LORD ROTHSCHILD**, red, **Red Rose**, born 10th April, 1896, bred by Mrs. Pratt, Warrior's Lodge, Kenilworth; s **Broughton Duke 4th** (58568), d **Dairymaid**, s d **Granite** (47984).

CLASS 68.—*Shorthorn Cow in-Milk, calved before 1904. [5 entries.]*

I. (£10.)—**J. HORLICK**, Cowley Manor, near Cheltenham, roan, **Sherborne Ruth**, born 2nd February, 1901, bred by Lord Sherborne, Sherborne Park, Glos.; s **Scottish Monarch** (77828), d **Lady Elizabeth 3rd**, s d **New Year's Star** (64476).

II. (£5.)—**SIR A. C. STEPNEY**, Bart., The Dell, Llanelly, red and little white, **Vesta**, born 12th August, 1901, bred by T. A. Argles, Eversley, Milnthorpe, Westmoreland; s **Land Steward** (81422), d **Vere**, s d **Baron Eversley** (66689).

E.—**VISCOUNT TREDEGAR**, Tredegar Park, Newport, Mon., roan, **Effie Gwynne**, born 2nd December, 1902; s **Bonny Archer** (80527), d **Bessie Gwynne** (Vol. xlix, p. 680), s d **Bridegroom** (66728).

* Given by the Town of Devonport, "The Devonport Challenge Cup" (value £52 10s.) for the best Bullock (Bull, Cow, or Heifer) in the South Devon Classes. The Cup to be won two years in succession or three years at intervals before becoming the absolute property of the winner.

CLASS 69.—*Shorthorn Heifer in-Milk, calved in 1904.* [4 entries.]

I. (£10.)—R. M. KNOWLES, Colston Bassett Hall, Bingham, Notts, roan, **Allerston Mary 2nd**, born 19th February, bred by C. A. Hirst, Pickering, Yorks; s Brockenhurst (85458), d Lady Mary 2nd, s d Look Ahead (67327).

II. (£5.)—J. D. WILLIS, Bapton Manor, Codford, Wilts, red, **Beauty 3rd**, born 24th March, bred by — Anderson, Wardes, Kintore; s My Hope (86705), d Beauty 2nd, s d Lovat Chief.

CLASS 70.—*Shorthorn Heifer, calved in 1905.* [11 entries.]

I. (£10.)—F. PHILLIPS, Shipton Sollars Manor, Andoversford, Glos., roan, **Roan Pansy**, born 19th February; s First Favour (85972), d Shipton Pansy, s d Wrestler (66582).

II. (£5.)—G. HARRISON, Gainford Hall, Darlington, red, **Montrave Wondrous**, born 2nd January, bred by Sir J. Gilmour, Bart., Montrave, Leven, Fife; s Daleapon Champion (85733), d Montrave Wonder, s d Royal Archer (82127).

III. (£2.)—THE EARL OF POWIS, Powis Castle, Welshpool, white, **Powysland Snowdrop**, born 5th January, bred by H. K. Colville, Bellaport, Market Drayton; s Strown Butterfly 19th (87517), d Lady Gladys Waterloo, s d Pitlivie Governor (79562).

R.—LORD FITZHARDINGE, Berkeley Castle, roan, **Georgina 5th**, born 1st January; s Cyprus (66894), d Georgina 2nd, s d Lord Barrington Bates 4th (74864).

CLASS 71.—*Shorthorn Heifer, calved in 1906.* [17 entries.]

I. (£10.)—A. F. BASSETT, Tehidy, Camborne, Cornwall, roan, **Tehidy Queen of Brilliants 3rd**, born 9th April; s Shamrock (84742), d Brilliant Princess 2nd, s d Bapton Juan (71971).

II. (£5.)—J. D. WILLIS, Bapton Manor, Codford, Wilts, roan, **Mermaid**, born 19th January; s Violet's Fame (78078), d Seadrift, s d Challenger (68334).

III. (£2.)—F. PHILLIPS, Shipton Sollars Manor, Andoversford, Glos., roan, **Shipton Lady Charfield**, born 9th March; s Jorton Knight (90582), d Lady Charfield 45th, s d Duke of Lynham (80929).

R.—VISCOUNT TREDEGAR, Tredegar Park, Newport, Mon, red and white, **Tredegar Sceptre**, born 29th March, bred by C. D. Phillips, The Gaer, Newport; s Bapton Sceptre (82773), d Arc Gwynne 15th (Vol. lii, p. 874), s d Speculator (75714).

CLASS 72.—*Shorthorn Bull, calved in 1903 or 1904.* [5 entries.]

I. (£10.) and Champion Prize (£10)*—HIS MAJESTY THE KING, The Royal Farms, Windsor, red and little white, **Enchanter** (85887), born 2nd December, 1903; s Royal Duke (75509), d Eliza 17th, s d Prince of Sanquhar.

* Given by the Shorthorn Society for best Bull in Class 72, 73, or 74, entered in, or eligible for entry in, Coates's Herd Book.

II. (£5.)—R. STRATTON, The Duffryn, Newport, red and white, **Earl of Yewden 5th**, born 21st December, 1903, bred by Hon. W. H. D. Smith, Greenlands, Henley-on-Thames; s Rotherfield Augustus (77692), d Sally Bampton, s d Duke of Cumberland 3rd (68506).

R.—R. M. KNOWLES, Colston Bassett Hall, roan, **Handicraft** (88802), born 29th August, 1904, bred by the Earl of Powis, Powis Castle, Welshpool; s Witchcraft (87738), d Dora 10th, s d Duke of Barrington 26th (57174).

CLASS 73.—Shorthorn Bull, calved in 1905. [13 entries.]

I. (£10.) and R for Champion*—J. D. WILLIS, Bapton Manor, Codford, Wilts. white, **Stonecrop**, born 9th April, bred by Lord Brougham, Penrith, Cumberland; s Stoneytown Pride, d Furze 5th, s d Merry Archer.

II. (£5.)—A. D. ACLAND, Digswell House, Welwyn, Herts, red, **Manor Nelson**, born 5th March, bred by A. Hiscock, jun., Manor Farm, Motcombe, Shaftesbury; s Sebastopol Yet (84733), d Manor Bianca, s d Sebastopol (64808).

III. (£2.)—S. DENNIS, Latton, Cricklade, Wilts, red, **Eastover Topper**, born 23rd January, bred by S. H. Allen, Eastover, Andover, Hampshire; s Thron Room (87557), d Eastover Kirklevington 7th, s d Captain Lavender (70097).

R.—S. HILL, J.P., Langford House, Langford, near Bristol, roan, **Don Pedro** (91499), born 20th March; s Bapton Nonpareil (82771), d Prima Donna, s d Christmas Gift (66837).

H.C.—G. HARRISON, Gainford Hall, Darlington, roan, **Elvetham Sweetmeat**, born 7th March, bred by Lord Calthorpe, Elvetham Park, Winchfield; s Bapton Champion (78285), d Sweetheart, s d Royal Duke (75509).—S. HILL, J.P., white, **Lavender Monarch** (92212), born 23rd April; s Bapton Nonpareil (82771), d Lavender Lilac, s d Wiltshire Victor (71883).

CLASS 74.—Shorthorn Bull, calved in 1906. [22 entries.]

I. (£10.)—HIS MAJESTY THE KING, The Royal Farms, Windsor, white, **Golden Treasure**, born 22nd March, bred by J. Durno, Jackstown, Rothienorman; s Violet's Fame (93758), d Georgina, s d Stephen FitzLavender (73732).

II. (£5.)—W. C. BARLING, M.R.C.V.S., The Paddocks, Newnham, Gloucestershire, dark red, **Newnham Royalty 2nd**, born 27th April, bred by F. B. Barling, Hodcott House, West Ilsley, Berkshire; s Bletchley Royal (82901), d Lady Anna 5th, s d Valiant (80158).

III. (£2.)—A. D. ACLAND, Digswell House, Welwyn, Herts, roan, **Eccelin Duke Kirklevington 2nd**, born 4th January; s Duke of Barrington 84th (88444), d Manor Coronation, s d Sebastopol (64808).

R.—R. STRATTON, The Duffryn, Newport, roan, **Roysterer**, born 6th February; s Wrestler's Baronet (87749), d Rosalind, s d Pinker (75227).

H.C.—VISCOUNT TREDEGAR, Tredegar Park, Newport, Mon., roan, **Tredegar Rosaline's Perquisite**, born 7th June; s Perquisite (868107), d Rosaline 2nd (Vol. xliii, p. 364), s d Argentine (60260).

C.—A. F. BASSETT, Tehidy, Camborne, Cornwall, red and little white, **Tehidy Portreath**, born 30th March; s Shamrock (84742), d Royal Carnation, s d Royal Sovereign (77756).

* Given by the Shorthorn Society for best Bull in Class 72, 73 or 74 entered in, or eligible for entry in, Coates's Herd Book.

HEREFORD.

CLASS 75.—*Hereford Cow, in-Milk, calved before 1904.* [7 entries.]

I. (£10.)—EARL OF COVENTRY, Croome Court, Worcester, **Madame** (Vol. xxx, p. 289), born 4th March, 1898; s Viscount (18648), d Madonna 2nd (Vol. xxix, p. 252).

II. (£5.)—H. R. EVANS, Court of Noke, Staunton-on-Arrow, Hereford, **Ma Belle**, born 20th January, 1903; s Lord Sutton (20162), d Molly (Vol. xxv, p. 307), s d Manager (19580).

III. (£2.)—P. COATS, Sheepcote, Clifford, Herefordshire, **Pretty Girl**, born 3rd January, 1903; s Bage Protector (21167), d Pretty Lass, s d Prince Richard (17450).

R.—G. D. FABER, C.B., M.P., Rush Court, Wallingford, **My Queen**, born 29th May, 1903; s Lord Roberts (21545), d Alexandra (Vol. xxxiv, p. 322), s d Truant (15758).

H.C.—D. EVANS, Ffrwdgrech, Brecon, **Felicity**, born 14th January, 1904; s Titus (17577), d Fedora (Vol. xxx, p. 271), s d Blucher 2nd (18246).

CLASS 76.—*Hereford Heifer, in-Milk, calved in 1904.* [4 entries.]

I. (£10.)—T. R. THOMPSON, J.P., Erwr Delyn, near Penarth, **Beauty 3rd**, born 5th February; s King John (20114), d Beauty 2nd (Vol. xxxiii, p. 366), s d Clarence (15944).

II. (£5.)—D. EVANS, Ffrwdgrech, Brecon, **Pink May**, born 22nd April; s Rufus (22539), d Mayfair 2nd (Vol. xxxv, p. 303), s d Brychan (19895).

R.—J. TUDGE, Duxmoor, Craven Arms, Salop, **Bannerette**, born 18th February; s Royal Rupert (20976), d Beauty 2nd (Vol. xxxiv, p. 672), s d Bretwalda (18252).

CLASS 77.—*Hereford Heifer, calved in 1905.* [7 entries.]

I. (£10.)—W. B. TUDGE, Stepside, Onibury, Salop, **Princess Beatrice**, born 27th January; s All-fours (22697), d Beatrice 19th (Vol. xxxv, p. 163), s d Montezuma (18486).

II. (£5.)—G. BUTTERS, Hill House, Newton, Hope-under-Dinmore, Leominster, **Newton Belle**, born 1st January; s Scot (23134), d Plum (Vol. xxii, p. 259), s d Abductor (17636).

III. (£2.)—P. COATS, Sheepcote, Clifford, Herefordshire, **Mary**, born 25th February; s Endale (21366), d Pretty Lass, s d Prince Richard (17450).

R.—D. A. THOMAS, M.P., Llanwern Park, Newport, Mon., **Spot**, born 6th January, bred by W. Thomas, The Hayes, Sully, Glamorgan; s Perfection (22450), d Hardy 2nd (Vol. xxxiii, p. 666), s d Capitalist (18284).

H.C.—C. T. PULLEY, Lower Eaton, Hereford, **Daisy 6th**, born 27th January, s Eaton Goldbox (22481), d Broady 24th, s d Strafford (14946).

CLASS 78.—Hereford Heifer, calved in 1906. [11 entries.]

I. (#10.)—A. E. HUGHES, Wintercott, Leominster, **Lemster Plum**, born 20th January; s Pearl King (24192), d Ivington Plum (Vol. xxxv, p. 444), s d Malcolm (21575).

II. (#5.)—R. KEENE, Llanvihangel Court, Rogiet, Newport, **Bloom**, born 31st January; s Whittern Marksman (23839), d Blush, s d Rodney Stone (19692).

III. (#2.)—T. R. THOMPSON, J.P., Erwr Delyn, near Penarth, **Beauty 4th**, born 29th January; s Perfection (22450), d Beauty 2nd, s d Clarence (15944).

R.—R. W. HALL, Uphampton, Shobdon, S.O., **Sunbeam**, born 27th January; s Abactor (23252), d Vanity (Vol. xxxv., p. 397), s d Wetmare Wilten 4th (17617).

V.H.C.—J. ROWLANDS, Evesbatch Court, Bishops Frome, **Evesbatch Beauty**, born 14th January; s Royal Standard (24260), d Beauty 27th, s d Whitfield Roberts (21880).

C.—P. COATS, Sheepcote, Clifford, Herefordshire, **Plum**, born 15th February; s Endale (21366), d Pretty Lass, s d Prince Richard (17450).—**EARL OF COVENTRY**, Croome Court, Worcester, **Tinfoil**, born 22nd January; s Maxwell (24155), d Toggerly (Vol. xxxii, p. 299), s d Gaudy Prince (19425).—**D. A. THOMAS**, M.P., Llanwern Park, Newport, Mon., **Brunch**, born 15th January; s Ronsaid (23729), d Briony 2nd (Vol. xxxiii, p. 370), s d Royal Blood (15641).

CLASS 79.—Hereford Bull, calved in 1903 or 1904. [3 entries.]

I. (#10.)—A. E. HUGHES, Wintercott, Leominster, **Pearl King** (24192), born 7th April, 1904, bred by J. H. Arkwright, Hampton Court, Leominster; s Commandant (22040), d Pearl 15th (Vol. xxxiii, p. 208), s d Montezuma.

II. (#5.)—**EARL OF COVENTRY**, Croome Court, Worcester, **Lama** (23550), born 20th March, 1903; s Fortunio (21396), d Ladylove, s d Royal Ruler (13406).

R.—J. ROWLANDS, Evesbatch Court, Bishops Frome, **Royal Standard** (24260), born 3rd February, 1903, bred by the late R. Green, The Whittern; s Curly Boy (17793), d Silkweed, s d Albion (15027).

CLASS 80.—Hereford Bull, calved in 1905. [13 entries.]

I. (#10.)—H. J. DENT, Perton Court, Stoke Edith, Hereford, **Perton** (24862), born 28th January; s Whitfield Roberts (21880), d Lively 27th (Vol. xxvi, p. 192), s d Pearl Cross (16882).

II. (#5.)—H. R. EVANS, Court of Noke, Staunton-on-Arrow, Hereford, **Pyon Gauntlet** (24910), born 2nd April; s Gilderoy (20653), d Ringdove (Vol. xxxii, p. 336), s d Endale Grove's Hope (17246).

III. (#2.)—**EARL OF COVENTRY**, Croome Court, Worcester, **Rabbi**, born 19th June; s Queen's Guard (23995), d Rapture (Vol. xxix, p. 255), s d Myro (16866).

R.—G. D. FABER, C.B., M.P., Rush Court, Wallingford, **Bob Roy**, born 17th February, bred by W. Tudge, Summer Court, Kington, Herefordshire; s Commandant, d Golden Blossom, s d Goldbox.

V.H.C.—SIR J. R. G. COTTERELL, Bart., Garnons, Herefordshire, **Old Sort**, born 19th April; s Ramees (23100), d Lilian, s d Principal (17452).

H.C.—P. COATS, Sheepcote, Clifford, Herefordshire, **Happy Hampton** (24658), born 18th June; s All Fours (22697), d Pearl 15th, s d Montezuma (18486).

C.—EARL OF COVENTRY, **Glittering Gold**, born 8th April; s Gold (22170), d Misbelief (Vol. xxxi, p. 281), s d Miscreant (19595).

CLASS 81.—*Hereford Bull, calved in 1906.* [9 entries.]

I. (#10.)—D. A. THOMAS, M.P., Llanwern Park, Newport, Mon., **Samson**, born 4th January, bred by W. Thomas, The Hayes, Sully, Glamorgan; s Perfection (22450), d Damson (Vol. xxxiv, p. 663), s d Bolingbroke 2nd (17698).

II. (#5.)—G. BUTTERS, Hill House, Newton, Hope-under-Dinmore, Leominster, **Viscount**, born 8th January; s Scot (23134), d Prairie Snowdrop (Vol. xxviii, p. 240), s d Prairie Star (15567).

III. (#2.)—C. T. PULLEY, Lower Eaton, Hereford, **Eaton Masterpiece**, born 13th February; s Eaton Champion (21351), d Primrose, s d Eaton Defender 12th (20602).

R.—SIR J. R. G. COTTERELL, Bart., Garnons, Herefordshire, **Mariner**, born 8th January; s Marcillus (22353), d Nina, s d Whitfield Grove (21122).

C.—D. A. THOMAS, M.P., **Kaiser**, born 30th January; s Lord Roberts (21547), d Endale Fraulein 2nd (Vol. xxxi, p. 713), s d Hope (13872).

• **SUSSEX.**

CLASS 82.—*Sussex Cow or Heifer, in-Milk, calved in or before 1904.*
[3 entries.]

I. (#10.) and Special*—EARL OF WINTERTON, Shillinglee Park, Petworth, **Sunlight 7th** (9929), born 1st February, 1904; s Bewbush (1943), d Sunlight 3rd (8127), s d Brantridge Duke (1408).

II. (#5.)—W. G. FLADGATE, Apsley, Thakeham, Pulborough, Sussex, **Longhorn A** (7781), born 9th December, 1898, bred by the late F. G. Reeves, East Peckham, Tonbridge, Kent; s Aldon A 5 (1452), d Addlested Longhorn (6912), s d Pat (1325).

CLASS 83.—*Sussex Heifer, calved in 1905 or 1906.* [3 entries.]

I. (#10.) and R. for Special*—EARL OF WINTERTON, Shillinglee Park, Petworth, **Speculation 9th** (10545), born 4th January, 1905; s Tutsham Gold (1946), d Speculation 2nd (6385), s d Saturn (1043).

II. (#5.)—THE EARL OF DERBY, Orchardmains, Tonbridge, Kent, **Display** (10096), born 4th January, 1905; s Dragoon (1881), d Dovelet (8841), s d Grazier (1684).

R.—THE EARL OF DERBY, **Flytrap** (10098), born 27th January, 1905; s Mayor (1883), d Foxglove (8844), s d Diploma (1540).

* Given by the Sussex Herd Book Society, a silver Medal for the best Animal in Class 82 or 83.

CLASS 84.—*Sussex Bull, calved in 1904, 1905, or 1906.* [5 entries.]

I. (£10.) and Special*—E. E. BRABY, Drungewick Manor House, Rudgwick, Sussex, **Lord of Drungewick 5th** (2038), born 6th January, 1904; s Duke of Drungewick 3rd (1808), d Ladysmith (7887), s d Prince of Drungewick (1530).

II. (£5.) and **R.** for Special*—E. E. BRABY, **Alfred of Drungewick** (2110), born 26th January, 1905; s Alfred (1637), d British Beauty (8159), s d Drungewick Prebble (1666).

R.—W. G. FLADGATE, Apsley, Thakeham, Pulborough, Sussex, **Apsley Liberty** (2128), born 4th June, 1905; s Drungewick Prebble 4th (1961), d Libertine (7566), s d Li Hung Chang (1474).

RED POLLED.

(The First Prize in Class 85 and the Champion Prize were given by the Red Polled Cattle Society.)

CLASS 85.—*Red Polled Cow or Heifer, in-Milk, calved in or before 1904.* [2 entries.]

I. (£10.) and Champion (**£5 5s.**)†—SIR W. CORBET, Bart., Acton Reynold, Shrewsbury, **Tiff 4th** (18370), born 18th February, 1901, bred by G. Taylor, Trowse, Norwich; s Redmond (5147), d Tiff 2nd (6814), s d Cromwell (647).

R. & V.H.C.—G. D. SMITH, Strensham Court, Worcester, **Popsy 6th**, born 19th March, 1900, bred by Lord Amherst of Hackney, Didlington, Norfolk; s Redvers (6570), d Poppety 2nd (4289), s d Didlington Davyson 2nd (657).

CLASS 86.—*Red Polled Heifer, calved in 1905 or 1906.* [2 entries.]

I. (£10.)—SIR W. CORBET, Bart., Acton Reynold, Shrewsbury, **Acton Cranberry** (20179), born 19th January, 1905; s Edward (9076), d Acton Cherry (17878), s d Logan (6391).

R. & V.H.C.—SIR R. COOPER, Bart., Ashlyns Hall, Berkhamstead, Herts. **Ashlyns Pitwood**, born 9th May, 1905; s Royal Standard (8707), d Lady Pitwood (9488), s d Ruby King (2925).

CLASS 87.—*Red Polled Bull, calved in 1904, 1905, or 1906.* [2 entries.]

I. (£10.) and **R.** for Champion†—G. D. SMITH, Strensham Court, Worcester, **Warwick**, born 28th February, 1904, bred by J. Arkwright, Hatton, Warwick; s Arthur (7802), d Susie (18362), s d Lancer (4490).

R. & V.H.C.—SIR R. COOPER, Bart., Ashlyns Hall, Berkhamstead, Herts, **Ashlyns Ben** (9361), born 1st March, 1904; s Felix (7066), d Minnie (8045), s d Earl (2279).

* Given by the Sussex Herd Book Society, a Silver Medal for the best Bull in Class 84.

† Given by the Red Polled Cattle Society for the best Animal in Class 85, 86 or 87.

ABERDEEN-ANGUS.

(The First Prize in Class 88 was given by the English Aberdeen-Angus Cattle Association.)

CLASS 88.—*Aberdeen-Angus Cow or Heifer, in-Milk, calved before 1st December, 1904.* (3 entries.)

I. (£10.)—J. J. CRIDLAN, Home Farm, Maisemoor Park, Gloucester, **Mabel 8th of Knapperna** (34663), born 5th March, 1902, bred by W. Steward, Udney, Aberdeenshire; s Dreyfus (16472), d Mabel of Knapperna (24805), s d Kalendar (10962).

II. (£5.)—J. H. BRIDGES, Langshott, Horley, Surrey, **Barbarina 2nd** (31391), born 10th January, 1901; s Equerry of Ballindalloch (9136), d Barberry of Laughton (22819), s d Jovial Souter (7634).

R.—SIR G. A. COOPER, Bart., Hursley Park, Winchester, **Verbascum of Glamis** (32797), born 10th March, 1901, bred by the late Earl of Strathmore, Glamis Castle, Glamis, Forfarshire; s Bacchus of Glamis (14097), d Venetia (26197), s d Kidnapper (9300).

CLASS 89.—*Aberdeen-Angus Heifer, calved on or after 1st December, 1904.* [1 entry.]

I. (£10.)—COL. J. PICTON-TURBERVILL, D.L., J.P., Ewenny Priory, Bridgend, Glamorgan, **Pride of Ewenny**, born 16th December, 1904; s Proud Monarch of Maisemore (21166), d Pride 3rd of Skegby (33326), s d Count Fluster (16409).

CLASS 90.—*Aberdeen-Angus Heifer, calved on or after 1st December, 1905.* [11 entries.]

I. (£10.) and Champion*—REV. C. BOLDEN, Preston Bissett, Buckingham, **Veritas of Preston** (Vol. xxxi), born 22nd December, 1905; s Publican of Preston (21178), d Veracity of Preston (27946), s d Cadmus of Preston (14183).

II. (£5.)—SIR G. A. COOPER, Bart., Hursley Park, Winchester, **Pride of Alick** (39949), born 1st January, 1906, bred by — Allan, Ballintomb, Dulnani Bridge, Grantown; s Alick of Aberlour (12231), d Pride of Spey 3rd (35489), s d Performer of Aberlour (17018).

III. (£2.)—J. J. CRIDLAN, Home Farm, Maisemore Park, Gloucester, **Proud Mona**, born 8th January, 1906; s Elate (16513), d Propriety of Aberlour (24089), s d Free Lance (11688).

R.—W. B. GREENFIELD, Haynes Park, Bedford, **Rhona of Haynes**, born 29th January, 1906; s Royal Justice (22664), d Rhona 3rd of Danesfield (35790), s d Danesfield Jester (18949).

H.C.—J. J. CRIDLAN, **Early Rose**, born 29th December, 1905, bred by W. S. Ferguson, Kinnochty, Perthshire; s Ennicher (23131), d Moss Rose (35466), s d Echador (16496).

C.—J. J. CRIDLAN, **Evergreen**, born 30th December, 1905; s Wizard of Maisemore (21465), d Evergreen 9th (35297), s d Elate (16513).

* Given by the Polled Cattle Society, a Gold Medal for the best Animal in Classes 88 to 92.

CLASS 91.—*Aberdeen-Angus Bull, calved before December 1st, 1905.*
[4 entries.]

I. (£10.) and Special *—J. J. CRIDLAN, Home Farm, Maisemore Park, Gloucester, **Everwise** (24436), born 19th January, 1907; s **Wizard of Maisemore** (21465), d **Evergreen 7th** (33414), s d **Eimeo** (12450).

II. (£5.)—W. B. GREENFIELD, Haynes Park, Bedford, **Gay Boy of Danesfield** (21967), born 10th January, 1903, bred by R. W. Hudson, Danesfield Park, Great Marlow, Bucks; s **Governor of Abergeldie** (14447), d **Danesfield Lass** (25612), s d **Black Prince of Ardingly** (11464).

R.—J. H. BRIDGES, Langshott, Horley, Surrey, **Perfection of Sands** (22420), born 11th December, 1902, bred by L. Johnson, Sands, Kincardine, N.B.; s **Buttress** (16357), d **Pride of Sands** (35178), s d **Sutherland** (13983).

C.—REV. C. BOLDEN, Preston Bissett, Buckingham, **Proud Elf** (24991), born 12th January, 1905; s **Earl Elvan** (21765), d **Pride of Preston 28th** (33210), s d **Eglamore** (11618).

CLASS 92.—*Aberdeen-Angus Bull, calved on or after December 1st, 1905.* [6 entries.]

I. (£10.)—SIR G. COOPER, Bart., Hursley Park, Winchester, **Black for Ever of Ballindalloch** (25338), born 11th December, 1905, bred by Sir G. M. Grant, Bart., Ballindalloch Castle, N.B.; s **Everard of Ballindalloch** (21902), d **Blackeen** (35599), s d **Delamere** (13305).

II. (£5.)—SIR G. COOPER, Bart., **Premier of Hursley** (26142), born 11th March, 1906; s **Evolurus** (21908), d **Pride 7th of Coynachie** (33021), s d **Statesman of Coynachie** (17308).

III. (£2.)—J. J. CRIDLAN, Home Farm, Maisemore Park, Gloucester, **Everguard**, born 29th December, 1905; s **Wizard of Maisemore** (21465), d **Evergreen 7th** (33414), s d **Eimeo** (12450).

R.—J. J. CRIDLAN, **Ettelate**, born 29th December, 1905; s **Elate** (16513), d **Ettina of Methlick** (25543), s d **Ekram** (9112).

C.—W. B. GREENFIELD, Haynes Park, Bedford, **Gay Captain of Haynes**, born 9th March, 1906; s **Gay Boy of Danesfield** (21967), d **Queen Cadi** (24304), s d **Cadi** (11491).

BLACK WELSH.

(The First Prize in Class 93 was given by the Welsh Black Cattle Society).

CLASS 93.—*Black Welsh Cow or Heifer, in-Milk, calved before 1905.*
[6 entries.]

I. (£10.)—R. M. GREAVES, Wern, Portmadoc, **Gelliwan 5th** (518 W.H.B.), born 7th October, 1903, bred by T. Roberts, Tanyfynwent, Aber, Bangor; s **Gellifan** (153 W.H.B.), d **Gelliwan** (510 W.H.B.), s d **Dei** (447).

* Given by the English Aberdeen-Angus Cattle Association, a Silver Medal for the best Animal of opposite sex to that awarded the Gold Medal in Classes 88 to 92.

II. (25.)—MESSRS. MORRIS WERN-BERNEY, Llanboidy, Whitland, **Olwen**, born 3rd January, 1902; s Prince Llewellyn, d Tulip, s d Black Prince.

III. (22.)—UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, **Madryn Princess**, born 15th March, 1899, bred by I. L. Davies, Derimoilon, Golden Grove; s Egwad, d Cornfelin.

R.—J. W. HARRIES, Pilsoth, Llanstephan Road, Carmarthen, **Alexandra** (109 W.B.C.H.B.), born 10th March, 1901; bred by D. Evans, Dyffryn, Llanboidy; s Llanboidy Jack 3rd, d Pretty.

V.H.C.—J. W. REYNOLDS, J.P., Barry Island, Letterston, Pembrokeshire, **Barry Furbelow**, born 5th March, 1903; s Math, s d Martyr.

H.C.—J. W. GRIFFITHS, The Court, Penally, R.S.O., **Primrose 2nd**, born 20th November, 1898, bred by the late J. M. Griffiths, The Court, Penally; s Victor (186 Vol. v), d Primrose (504 Vol. v), s d Brigadier.

CLASS 94.—Black Welsh Heifer, calved in 1905. [5 entries.]

I. (210.)—UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, **Madryn Sally 2nd**, born 12th February; s Madryn Duke, d Madryn Sally, s d Black Bear.

II. (25.)—T. E. THOMAS, J.P., Trehale, Mathry, R.S.O., Pembrokeshire, **Sarah 5th**, born 15th January; s Gorpyg Lad (Vol. i), d Sarah 4th (Vol. i).

R.—J. W. REYNOLDS, J.P., Barry Island, Letterston, Pembrokeshire, **Topsy**, born 5th January; s Wern Scout, s d Martyr.

CLASS 95.—Black Welsh Heifer, calved in 1906. [6 entries.]

I. (210.)—W. EVANS, Chantry House, Steyning, **Mesha**, born 28th March; s Palle Boy, d Blacken, s d Glanduad Lady.

II. (25.)—UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, **Madryn Sally 3rd**, born 17th January; s Mafeking, d Madryn Sally, s d Black Bear.

III. (22.)—R. M. GREAVES, Wern, Portmadoc, **Wern Fortress**, born 17th July; s Wern Defender (45 W.H.B.), d Wern Backsheech (182 W.H.B.), s d Wern Cawr (142 W.H.B.).

R.—J. W. GRIFFITHS, The Court, Penally, R.S.O., **Dyffryn Lily**, born 1st March, bred by D. Evans, Dyffryn, Llanboidy, Whitland; s Dyffryn Hero, d Llanboidy Queen 2nd.

H.C.—T. E. THOMAS, J.P., Trehale, Mathry, R.S.O., Pembrokeshire, **Sarah Jane 2nd**, born 26th February; s Deio Bach (Vol. v), d Sarah Jane (659, Vol. v), s d Black Prince.

C.—J. & S. THOMAS, Bwlchgywynt, Mydrim, St. Clears, **Mydrim Mary** (Vol. ii), born 10th January; s Charlie Boy (172 Vol. i, W.B.C.H.B.), d Bella (364, Vol. i, W.B.C.H.B.), s d Hafodwr (263 Vol. v, S.W.B.C.H.B.).

CLASS 96.—Black Welsh Bull, calved in 1904 or 1905.

[5 entries.]

I. (210.)—R. M. GREAVES, Wern, Portmadoc, **Wern Dividend**, born 7th January, 1904; s Tip (465 N.W.H.B.), d Lady Sarah 2nd (1082 N.W.H.B.), s d Little Orme (369 N.W.H.B.).

II. (25.)—L. DAVIES, Wernoleufawr, Llanboidy, Whitland, R.S.O., **Duke of Pembroke**, born 27th July, 1904, bred by J. C. Yorke, Langton, Durbach, Pembrokeshire; s Duke of Yorke, d Ladybird, s d Colonel Worthington.

R.—R. THOMAS, Great Pale, Whitland, **Shah**, born 28th October, 1905; s Prince Arthur (Vol. i, 177 W.B.C.H.B.), d Pale Kitty (Vol. i, 578 W.B.C.H.B.).

H.C.—G. LL. PALMER, Lackham, Lacock, Wilts, **Wern Emperor**, born 3rd March, 1905, bred by R. M. Greaves, Wern, Portmadoc, North Wales; s Wern Boy, d Beuno Bach, s d Mafeking.

CLASS 97.—Black Welsh Bull, calved in 1906. [3 entries.]

I. (210.)—J. W. REYNOLDS, J.P., Barry Island, Letterston, Pembrokeshire. **Barry Venture**, born 14th February; s Wern Scout, d Madryn Handy (434), s d Cawr (417).

II. (25.)—R. M. GREAVES, Wern, Portmadoc, **Wern Founder**, born 20th June; s Wern Defender (45 W.H.B.), d Beuno Bach (1264 N.W.H.B.), s d Mafeking (460 N.W.H.B.).

JERSEY.

CLASS 98.—Jersey Cow, in-Milk, calved before 1904. [7 entries.]

I. (210.)—A. MILLER-HALLETT, Goddington, Chelsfield, Kent, whole. **Vanilla 2nd**, born 15th April, 1900, bred by J. G. Bosdet, Jersey; s Hobby (7865), d Vanilla (8009), s d Visitor (5763).

II. (25.)—J. H. SMITH-BARRY, Stowell Park, Pewsey, Wilts, grey and white. **Lady May**, born 12th March, 1900, bred by M. N. le Quesne, Jersey; s Step. d La Jalousie, s d Una's Boy.

III. (22.)—LORD ROTHSCHILD, Tring Park, Herts, whole, **Penelope's Happy**, born 29th December, 1901, bred by T. Billot, St. Martin's Jersey; s Golden Jolly (7518), d Penelope (8441 F.S.H.C.).

R. & V.H.C.—LORD ROTHSCHILD, broken, **Oxford Snowdrop**, born 27th January, 1903; s Oxford Duke (5314), d Syren 3rd (Vol. x, p. 346), s d La Chasse Prince (5243).

H.C.—MRS. C. MCINTOSH, Havering Park, Romford, Essex, fawn, **Havering Glorissa 5th**, born 20th May, 1903; s Brompton (7118), d Glorissa 3rd (Vol. ix, p. 224), s d Silver Grey (1805).

CLASS 99.—Jersey Cow or Heifer, in-Milk, calved in 1904. [7 entries.]

I. (210.)—J. H. SMITH-BARRY, Stowell Park, Pewsey, Wilts, fawn, **Post Obit**, born 23rd March; s Gay Boy (7510), d Post Stamp 6th, s d Distinction's Crown (4818).

II. (25.)—A. MILLER-HALLETT, Goddington, Chelsfield, Kent, whole. **Speckled Hip 5th**, born 8th April; s Flying Foam (7204), d Speckled Hip 2nd (Vol. xv, 387), s d Wellington (2746).

III. (22.)—LORD ROTHSCHILD, Tring Park, Herts, whole, **Canopy**, born 11th November, bred by the Earl of Rosebery, Mentmore, Leighton Buzzard; s Jupiter (8247), d Cana 2nd (Vol. xvi, p. 250), s d Golden Jolly (7518).

R. & H.C.—**LADY E. F. SMYTH**, Ashton Court, Bristol, whole, **Golden Butter**, born 31st March, bred by the Marquis of Winchester; s Black Butter (7731), d Golden Stream (Vol. xii, 272).

(The Prizes in Class 100 were given by the English Jersey Cattle Society.)

CLASS 100.—*Cow or Heifer, in Milk, entered or eligible for entry in the English Jersey Herd Book, and sired in Great Britain or Ireland.* [6 entries.]

I. (210.)—**J. H. SMITH-BARRY**, Stowell Park, Pewsey, Wilts, fawn, **Post Obitt**, born 23rd March; s Gay Boy (7510), d Post Stamp 6th, s d Distinction's Crown (4818).

II. (26.)—**A. MILLER-HALLETT**, Goddington, Chelsfield, Kent, whole, **Goddington Foxglove**, born 21st April, 1905; s Flying Foam (7204), d Meadow Girl (Vol. xii, p. 316), s d Prism (2383).

III. (24.)—**LORD ROTHSCHILD**, Tring Park, Herts, broken, **Oxford Snowdrop**, born 27th January, 1903; s Oxford Duke (5314), d Syren 3rd (Vol. x, p. 346), s d La Chasse Prince (5243).

R. & V.H.C.—**A. MILLER-HALLETT**, Goddington, Chelsfield, Kent, whole, **Speckled Hip 5th**, born 8th April; s Flying Foam (7204), d Speckled Hip 2nd (Vol. xv, 387), s d Wellington (2746).

H.C.—**MRS. C. MCINTOSH**, Havering Park, Romford, Essex, fawn, **Havering Gloriosa 5th**, born 20th May, 1903; s Brompton (7118), d Goddington 3rd (Vol. ix, p. 224), s d Silver Grey (1805).—**LADY E. F. SMYTH**, Ashton Court, Bristol, whole, **Lucilla**, born 26th March, 1904; s Shopman (7664), d Louisiana Loo (Vol. xiv, 303 imported), s d Bessie's Knight (6781).

CLASS 101.—*Jersey Heifer, in-Milk, calved in or since 1905.*
[13 entries.]

I. (210.)—**LADY E. F. SMYTH**, Ashton Court, Bristol, nearly whole, **Lustre**, born 27th March, 1905, bred by Lord Rothschild, Tring Park; s Barrister (7719), d Hillside Lass 17th (318), s d Butter Test.

II. (25.)—**A. MILLER-HALLETT**, Goddington, Chelsfield, Kent, whole, **Goddington Foxglove**, born 21st April, 1905; s Flying Foam (7204), d Meadow Girl (Vol. xii, p. 316), s d Prism (2383).

III. (22.)—**J. H. SMITH-BARRY**, Stowell Park, Pewsey, Wilts, golden, **Dahlia**, born 1st March, 1905, bred by Col. C. E. Lang, West Stowell, Pewsey; s Oxford Sunbeam (8650), d Daffodil, s d Grouffiles Boy (6582).

CLASS 102.—*Jersey Heifer, calved in 1906.* [14 entries.]

I. (210.)—**LORD ROTHSCHILD**, Tring Park, Herts, whole, **Frolic**, born 21st April; s Strategist (8720), d Frolicsome 5th (Vol. xvi, p. 290), s d The Hero (6892).

II. (25.)—**J. JOICEY**, Poulton Priory, Fairford, Glos., broken, **Gloire de Dijon**, born 2nd April; s Chieftain (Vol. xvi, p. 64), d Lilian 2nd, s d Chief Justice (7138).

III. (22.)—**LADY E. F. SMYTH**, Ashton Court, Bristol, whole, **Brooklet**, born 23rd May; s Wyllard (8771), d Forfarshire's Streamlet, s d Forfarshire.

R. & V.H.C.—**L. CURRIE**, Minley Manor, Farnborough, Hants, whole, **Mint**, born 26th September; s Twylish King, d Memory, s d Reminder's Sovereign (7005).

H.C.—**A. Pocock**, Freegrove, Calne, Wilts, whole fawn, **Selwood Mary**, born 9th August, bred by J. W. Steeds, New Close, Frome; s Belinda's Boy (8080), d Highland Mary (Vol. xiv, p. 282), s d Prince Neddy (7628).

C.—**L. CURRIE**, whole, **Mallow**, born 28th July; s Twylish King, d Mirth, s d Maitland Rex (7924).—**R. B. WARD**, Westwood, Droitwich, whole, **Orange Silk**, born 12th July; s Orange King, d Bright Silk, s d Silken Lad (7666).

CLASS 103.—*Jersey Bull, calved in 1903 or 1904.* [3 entries.]

I. (210.)—**W. B. RODERICK**, Fronheulog, Llanelly, South Wales, brown and white, **Iris's Duke** (3506 P.S.H.C.), born 27th January, 1903, bred by P. du Val, sen, St. Peter's, Jersey; s Sir Watkin (7371 P.S.H.C.), d Iris (7878 P.S.H.C.), s d Dr. Jim (5861).

II. (25.)—**MRS. C. MCINTOSH**, Havering Park, Romford, Essex, whole, **Jolly Jim** (E.J.H.B.), born 16th May, 1904, bred by A. J. B. Arthur, Jersey; s Golden Jolly (2921), d Plaisanterie (9153).

R. & H.C.—**L. CURRIE**, Minley Manor, Farnborough, Hants, whole, **Twylish King**, born 12th January, 1904, bred by C. Fossey, St. Clement's, Jersey; s Fox's King (3323 J.H.B.), d Twylish (5791 J.H.B.), s d Golden Hero (1833 J.H.B.).

CLASS 104.—*Jersey Bull, calved in 1905.* [5 entries.]

I. (210.)—**LORD ROTHSCHILD**, Tring Park, Herts, broken, **Oxford Wrangler**, born 9th March; s Oxford, Duke (5314), d Syren 3rd (Vol. x, p. 346), s d La Chasse Prince (5243).

II. (25.)—**A. MILLER-HALLETT**, Goddington, Chelsfield, Kent, whole, **Alfriston's Pride**, born 19th July; s Goddington Brownie (8526), d Alfriston Gem (Vol. xi, 193), s d Golden Lad (3324).

R. & H.C.—**W. B. RODERICK**, Fronheulog, Llanelly, South Wales, whole, **Rosie's Boy** (3865 P.S.H.C.), born 14th March, bred by J. Huelin, St. Mary's Jersey; s Majesty (3523 P.S.H.C.), d Rosie Belle (8585 P.S.H.C.), s d Tom-bette's Rich Boy (6425 P.S.H.C.).

H.C.—**MRS. C. MCINTOSH**, Havering Park, Romford, Essex, brown, **Matilda's Fox**, born 7th December, bred by A. E. Syvret, Trinity, Jersey; s Dora's Fox (3682), d Matilda 3rd (10681).

C.—**J. HUMPHREYS**, The Cottage, Bridgnorth, whole, **Wilmington King**, born December, bred by Sir J. Whitehead, Dartford; s Woodville King (8054), d St. Ouennaise 24th (8265 H.C.), s d Cairo (2456 H.C.).

CLASS 105.—*Jersey Bull, calved in 1906.* [13 entries.]

I. (#10.)—A. POCOCK, Freegrove, Calne, Wilts, broken, fawn, **Sheriff**, born 16th May; s Barrister (8424), d Lady Everton (Vol. xvii, p. 330), s d Royal Sovereign (7655).

II. (#5.)—J. H. SMITH-BARRY, Stowell Park, Pewsey, Wilts, whole dark, **Fleur de Lys**, born 30th April; s Midsummer (8622), d Lily, s d Dryden (8158).

III. (#2.)—A. MILLER-HALLETT, Goddington, Chelsfield, Kent, whole, **Goddington Raleigh**, born 5th May; s Raleigh's Duke (3717), d Tapon's Blue belle (Vol. xvii, 414).

R. & H.C.—MRS. C. MCINTOSH, Havering Park, Romford, Essex, whole, **La Fosse Hero**, born 20th May, bred by W. P. Chevalier, St. John's, Jersey; s Ashley King (3327), d La Fosse Beauty (7778).

H.C.—J. JOICEY, Poulton Priory, Fairford, Gloucester, whole, **Electrician**, born 6th April; s Chief Justice (7138), d Electric Flash, s d Flying Fox (2729).—**LORD ROTHSCHILD**, Tring Park, Herts, whole, **Protector**, born 3rd May; s Franc Fief's Jolly (8187), d Pontorson 2nd (Vol. v, p. 596), s d Pandora's Boy (3619).—**R. B. WARD**, Westwood, Droitwich, whole, **Silken Flag**, born 16th April; s Silken Lad (7666), d Phyllis 13th, s d Darby (7163).

C.—MRS. C. MCINTOSH, whole, **Lord Brown**, born 15th March, bred by E. Le Cornu, St. Mary's, Jersey; s Ida's Glory (3491), d La Sergeant's Brown (9449).—**LORD ROTHSCHILD**, whole, **Bernard**, born 19th April, bred by J. S. Arthur, St. Mary's, Jersey; s Ida's Glory (8556), d Lausania (10904).—**LADY E. F. SMYTH**, Ashton Court, Bristol, whole, **Foxydyke**, born 26th July; s Vandeyck (8748), d Foxglove, s d Helena's Fox.

GUERNSEY.

CLASS 106.—*Guernsey Cow, in-Milk, calved before 1904* [6 entries.]

I. (#10.)—E. A. HAMBRO, Hayes Place, Hayes, Kent, fawn and white, **Fi Fi**, born 11th March, 1898, bred by S. Simas, Braye Road, Alderney; s Billy, d Butter Queen 2nd.

II. (#5.)—F. HARGREAVES, Merton Grange, Gamlingay, Cambs., fawn and white, **Felois** (4436), born 18th July, 1897, bred by N. Guilbert, Castel, Guernsey; s Safeguard of the Capelles (318 G.H.B.), d Myrtle (3857 G.H.B.), s d T. Mahy's Conqueror.

III. (#2.)—H. C. STEPHENS, Cholderton, near Salisbury, fawn and white, **Itchen Royal Rose** (5500), born 7th June, 1902, bred by Sir H. D. Tichborne, Alresford, Hants; s Rival (1343), d Royal Rose 2nd (4979), s d Itchen Jewel (1112).

R. & C.—J. P. MORGAN, Dover House, Roehampton, Surrey, fawn and white, **Rosette 2nd of the Gron** (6694), born 23rd December, 1903, bred by T. Bourgaïse, Gron, St. Saviour's, Guernsey; s Pioneer of the Hungenots (1320 P.S.R.G.A.S.), d Rosette of the Gron (F.S.R.G.A.S.).

CLASS 107.—*Guernsey Heifer, in-Milk, calved in 1904.* [3 entries.]

I. (#10.)—LADY TICHBORNE, Tichborne Park, Alresford, Hants, fawn and white, **Itchen Pearl 2nd** (6187), born 29th March; s Rival (1343), d Itchen Pearl (5156), s d May Day (1132).

E.—J. P. MORGAN, Dover House, Roehampton, Surrey, red and white. **Clatford Maid of the Mill** (6441), born 20th June, bred by T. J. Jay, Beau Sejour, St. Peter Port, Guernsey; s Masher's Sequel (1266 P.S.R.G.A.S.), d Daisy of the Gaitieres (2181 P.S.R.G.A.S.).

CLASS 108.—*Guernsey Heifer, calved in 1905.* [4 entries.]

I. (#10.)—H. C. STEPHENS, Cholderton, near Salisbury, red and white. **Cholderton Belle**, born 24th May, bred by Mrs. H. C. Stephens; s Bristol (1547), d Itchen Belle 5th (5845), s d Rival (1343).

II. (#5.)—LADY TICHBORNE, Tichborne Park, Alresford, Hants, fawn and white, **Itchen Minny 3rd** (6561), born 21st May; s Golden Secret (1569), d Minny (4923), s d Majesty.

R. & H.C.—H. C. STEPHENS, fawn and white, **Cholderton Rose** (6432), born 22nd May, bred by Mrs. H. C. Stephens; s Golden Secret (1569), d Itchen Royal Rose (5500), s d Rival (1343).

CLASS 109.—*Guernsey Heifer, calved in 1906.* [8 entries.]

I. (#10.)—E. A. HAMBRO, Hayes Place, Kent, fawn and white, **Hayes Golden Cherry 3rd**, born 23rd July; s Hayes Royal, d Golden Cherry.

II. (#5.)—E. A. HAMBRO, fawn and white, **Hayes Golden Cherry 4th**, born 25th July; s Coronation King, d Hayes Golden Cherry.

III. (#2.)—F. HARGREAVES, Merton Grange, Gamlingay, Cambs., fawn and white, **Clatford Lady Mead 2nd** (6813), born 10th May, bred by J. C. Forster, Clatford Mills, Andover; s Clatford Hope (1647), d Lady Mead (6212), s d Ransom of Les Prevosts (1219 P.S.).

R. & V.H.C.—H. C. STEPHENS, Cholderton, near Salisbury, red and white. **Claudia's Pride**, born 24th April, bred by Mrs. H. C. Stephens; s Permit (1407), d Itchen Claudia (5152), s d Orson (296).

V.H.C.—F. HARGREAVES, fawn and white, **Princess May 3rd of Les Prevosts** (6727 P.S.), born 21st January, 1906; bred by T. Le Patronnel, Les Prevosts, St. Saviour's, Guernsey; s Sir James (1700 P.S.), d Princess May of Les Prevosts (5901 S.P.).

C.—J. P. MORGAN, Dover House, Roehampton, Surrey, red and white. **Daisy's Star** (6774), born 18th January; s Dandy of the Moilpied (1554 P.S.R.G.A.S.), d Daisy of the Russell (5436 P.S.R.G.A.S.).

CLASS 110.—*Guernsey Bull, calved in 1903 or 1904.* [2 entries.]

I. (#10.)—F. HARGREAVES, Merton Grange, Gamlingay, Cambs., fawn and white, **Merton Signet** (1691), born 20th May, 1904; s Reuben 2nd (1416), d Signalmina (4647), s d Signalman (585).

Prizes awarded to Guernsey and Kerry Cattle. xxxvii

CLASS 111.—Guernsey Bull, calved in 1905. [2 entries.]

I. (#10.)—E. A. HAMBRO, Hayes Place, Kent, fawn and white, **Itchen Royal**, born 7th February, bred by Lady Tichborne, Tichborne Park, Alresford; s Golden Secret, d Royal Rose.

R. & V.H.C.—LADY TICHBORNE, Tichborne Park, Alresford, Hants, fawn and white, **Itchen Wrangler** (1757), born 5th June; s Golden Secret (1569), d Itchen Rosebud (5499), s d Loyal of Bordages.

CLASS 112.—Guernsey Bull, calved in 1906. [4 entries.]

I. (#10.)—F. HARGREAVES, Merton Grange, Gamlingay, Cambs., fawn and white, **Royal Governor of the Gron** (1869 P.S.), born 12th March, 1906, bred by T. Bourgaize, Gron, St. Saviour's, Guernsey; s Royal Governor of L'Etienneirie (1484 P.S.), d Butter Bowl 3rd (5140 P.S.).

II. (#5.)—E. A. HAMBRO, Hayes Place, Kent, red and white, **Hayes Coronation 2nd**, born 12th August; s Coronation King, d Hayes Express.

R. & V.H.C.—LADY TICHBORNE, Tichborne Park, Alresford, Hants, fawn and white, **Moss Raider** (1871), born 15th August; s Itchen Raider (1679), d Itchen Moss Rose (6186), s d Itchen May Day (1473).

C.—J. P. MORGAN, Dover House, Roehampton, fawn and white, **Comte de Paris**, born 20th January, bred by T. Le Prevost, L'Etienneirie, Castel, Guernsey; s Royal Governor of the Etienneirie (1484 P.S.R.G.A.S.), d Comtesse de Paris (4712 P.S.R.G.A.S.).

KERRY.

CLASS 113.—Kerry Cow or Heifer, in-Milk, calved in or before 1904. [7 entries.]

I. (#10.) and **R. for Special***—LADY GREENALL, Walton Hall, Warrington, **Aicme Cold** (510 F.S.), born March, 1896.

II. (#5.)—T. WAITE, Highlands, Redhill, Surrey, **La Mancha Mary Ann** (ear mark 441), born 1900.

III. (#2.)—G. LL. PALMER, J.P., Lackham, Lacock, Wilts, **Mollig Dhubb**, born 25th May, 1898, bred by the Marquis of Lansdowne, K.G., Bowood, Calne, Wilts; s Sir Aidh Ruadh, d Colleen Bawn, s d Shanboe.

R.—C. J. CORY, M.P., Llantarnam Abbey, Monmouthshire, **Attington Broom** (3058 R.D.S., 452 E.H.B.), born 31st July, 1899, bred by A. Deverell, Attington House, Tetsworth, Oxon; s Belvedere Tally Ho (380 R.D.S.), d Attington Beauty (2027 R.D.S.), s d Black King (123 R.D.S.).

H.C.—C. J. CORY, M.P., **Attington Lavender**, born 17th November, 1899, bred by A. Deverell, Attington House, Tetsworth, Oxon; s Belvedere Tally Ho! (380 R.D.S.), d Attington Bell (2175 R.D.S.), s d Paddy of Attington (335 R.D.S.).

* Given by B. de Bertodano, Esq., for best Animal in Class 113, 114 or 115, to which the Cup had not previously been awarded. The Bertodano Challenge Cup, value 25 guineas. The Cup to become the property of an Exhibitor winning it three years in succession.

CLASS 114.—*Kerry Heifer, calved in 1905 or 1906, [5 entries.]*

I. (210.)—G. LL. PALMER, J.P., Lackham, Lacock, Wilts, **Lackham Rose**, born 20th March, 1905; s Shiplake King, d Lady Clonbrook, s d Waterville Knight.

II. (25.)—C. J. CORY, M.P., Llantarnam Abbey, Monmouthshire, **Llantarnam Lucy**, born 2nd April, 1905; s Clonmel Aicme (537 R.D.S.), d Llantarnam Lena (3064 R.D.S.), s d Finn MacCumhail (445 R.D.S.).

R.—T. WAITE, Highlands, Redhill, Surrey, **Mangerton Eileen** (ear mark 670), born 1905.

H.C.—LADY GREENALL, Walton Hall, Warrington, **Walton Can-Can** (935), born May, 1905.

CLASS 115.—*Kerry Bull, calved in 1904, 1905 or 1906. [5 entries.]*

I. (210.) and Special*—G. LL. PALMER, J.P., Lackham, Lacock, Wilts, **Lackham Noble**, born 12th October, 1905; s Shiplake King, d Kathleen, s d Shannon.

II. (25.)—C. J. CORY, M.P., Llantarnam Abbey, Monmouthshire, **Llantarnam Lurcher**, born 16th May, 1906; s Llantarnum Libertine (556 R.D.S.), d La Mancha Turtle Dove (2775 R.D.S., 40 Eng. H.B.).

R.—THE MARQUIS OF LANSDOWNE, Bowood Park, Calne, Wilts, **Moat King** (164), born 18th April, 1905, bred by H. Schurhoff, Knowle, Warwickshire; s Walton Standard Bearer (139), d Walton Lady Prudent (724), s d Marquis 3rd of Carton (108).

H.C.—LADY GREENALL, Walton Hall, Warrington, **Walton Rajah** (153), born 14th March, 1904; s Marquis 3rd of Carton (108), d Waterville Begum (523).

C.—C. J. CORY, M.P., **Walton Margrave** (167 Eng. H.B.), born 11th August, 1905, bred by Lady Greenall, Walton Hall, Warrington; s Marquis 8th of Carton (152 E.H.B.), d Waterville Pearl 2nd 790 E.H.B.).

DEXTER KERRY.

CLASS 116.—*Dexter Kerry Cow or Heifer, in-Milk, calved in or before 1904. [10 entries.]*

I. (210.)—B. DE BERTODANO, Cowbridge House, Malmesbury, Wilts, red, **La Mancha Beatrice** (62 H.B.), born March, 1898, bred by B. Hayden, Killarney, Ireland.

II. (25.)—H. M. GIBBS, Barrow Court, near Bristol, black, **Barrow Seeta**, born 1901.

III. (22.)—THE DUCHESS OF DEVONSHIRE, Compton Place, Eastbourne, black, **Compton Desma**, born 1903.

R.—H. M. GIBBS, black, **Barrow Gunga** (1902 R.D.S.H.B.), born 1901.

* Given by B. de Bertodano, Esq., for best Animal in Class 113, 114 or 115, to which the Cup had not previously been awarded. The Bertodano Challenge Cup, value 25 guineas. The Cup to become the property of an Exhibitor winning it three years in succession.

H.C.—**B. DE BERTODANO**, black, **Cowbridge Sunny Lass** (894), born 11th July, 1902, bred by Col. Stallard, Sunny Lodge, Malvern, Worcester; s Malvern Satrap (83 H.B.), d Malvern Style (785 H.B.).—**THE COUNTESS OF SEFTON**, Croxteth, Liverpool, black, **Gort Bess**, born 1902.

C.—**B. DE BERTODANO**, red, **La Mancha Sweet Nell** (970 H.B.), born 1901.—**THE COUNTESS OF SEFTON**, black, **Gort My Queen**, born 1903.

CLASS 117.—*Dexter Kerry Heifer, calved in 1905 or 1906.*

[10 entries.]

I. (#10.)—**THE DUCHESS OF DEVONSHIRE**, Compton Place, Eastbourne, black, **Compton Diana**, born 1905.

II. (#5.) and **R. for Special***—**THE COUNTESS OF SEFTON**, Croxteth, Liverpool, black, **Altcar Sultana** (1208), born 7th April, 1905; s Altcar Sultan (438), d Gort Alice (R.D.S. Vol. xii, p. 22).

III. (#2.)—**G. J. B. CHETWYND**, Wyndthorpe, near Doncaster, black, **Don Gustavia** (1410), born March, 1905.

R.—**THE DUCHESS OF DEVONSHIRE**, black, **Compton Dot 2nd**, born 3rd May, 1905; s Compton Darby (270), d Compton Dot (30).

H.C.—**H. M. GIBBS**, Barrow Court, near Bristol, black, **Barrow Brunette 2nd**, born 2nd March, 1905; s Barrow Rama (330), d Barrow Brunette (1330).

C.—**H. M. GIBBS**, black, **Barrow Irish Duchess** (1417), born 1905.

CLASS 118.—*Dexter Kerry Bull, calved in 1904, 1905 or 1906.*

[7 entries.]

I. (#10.) and **Special***—**H. M. GIBBS**, Barrow Court, near Bristol, black, **Barrow Dan Bahadur** (328), born 13th April, 1905; s Compton Dan (213), d Barrow Begum (1253).

II. (#5.)—**THE DUCHESS OF DEVONSHIRE**, Compton Place, Eastbourne, black, **Compton Dreadnought**, born 21st February, 1905, bred by Mrs. Sheehan, Suceem, Co. Kerry, Ireland.

III. (#2.)—**B. DE BERTODANO**, Cowbridge House, Malmesbury, Wilts, red, **Cowbridge Rufus** (290 H.B.), born August 29th, 1905; s Cowbridge Cock Robin (240 H.B.), d La Mancha Snowdrop (871 H.B.).

R.—**THE DUCHESS OF DEVONSHIRE**, black, **Compton Destiny**, born 1905.

H.C.—**G. J. B. CHETWYND**, Wyndthorpe, near Doncaster, black, **Don Galeopsis** (292), born 1st June, 1905; s Don Gentian (244), d Don Gloriosa (1093).

* Given by the English Kerry and Dexter Cattle Society, the Devonshire Challenge Cup, for the best Animal in Class 116, 117 or 118, the sire and dam of which were entered in either the English or Royal Dublin Societies Herd Book. The Cup to be won by the same Exhibitor with different animals three years in succession before becoming his absolute property.

DAIRY.

CLASS 119.—*Cow, in-Milk, of any breed or cross, under 900 lbs. live weight, yielding the largest quantity of milk, of normal character, containing at each time of milking 12 per cent. of total solids, of which not less than 3 per cent. shall be fat, the period of lactation being taken into consideration.*

I. (210).—J. H. SMITH-BARRY, Stowell Park, Pewsey, Wilts, brown Jersey. **Marigold**, born 7th June, 1901; s Sportive (7037), d Magenta 5th, s d Dr. Jim (5861).

II. (25).—R. B. WARD, Westwood, Droitwich, whole Jersey, **Lucy**, born 24th July, 1900, bred by the Duke of Marlborough, Blenheim; s Havering Butterboy (6264), d Lady Polly, s d Golden Hero (4857).

III. (22).—LORD ROTHSCHILD, Tring Park, Herts, whole Jersey, **Golden Stream** (Vol. xii, p. 272), born 1898, bred by J. Picot, Trinity, Jersey.

CLASS 120.—*Cow, in-Milk, of any breed or cross, 900 lbs. live weight or over, yielding the largest quantity of milk of normal character, containing at each time of milking 12 per cent. of total solids, of which not less than 3 per cent. shall be fat, the period of lactation being taken into consideration.*

I. (210).—W. P. VOSPER, Merafield, Plympton, Devon, red South Devon. **Honesty 3rd** (3930), born 7th November, 1898; s Prince Edward (517), d Honesty 2nd (2691).

II. (25).—G. W. STARK, Forge Farm, Caerleon, Newport, Mon., red and white cross-bred, **Nancy**, born 21st April, 1902, bred by S. H. Baker, Lodge Farm, Caerleon.

III. (22).—J. S. WROTH, Coombe, Aveton Gifford, South Devon, **Nosegay 4th** (4365), born 4th January, 1900; s Old Fashion (653), d Nosegay 2nd (2737), s d Councillor (163).

BUTTER TEST.

(The Prizes in Classes 121 and 122 were given by the English Jersey Cattle Society, and entries in them were subject to any conditions issued by that Society previous to the tests.

CLASS 121.—*Cow of any breed or cross, under 900 lbs. live weight, obtaining the greatest number of points by the practical test of the separator and churn, judged by the scale of points adopted by the English Jersey Cattle Society.*

I. (210.) Gold Medal* and Special Prize (21)†—J. H. SMITH-BARRY, Stowell Park, Pewsey, Wilts, brown Jersey, **Marigold**, born 7th June, 1901; s Sportive (7037), d Magenta 5th, s d Dr. Jim (5861).

* Gold, Silver and Bronze Medals were given for the three Jersey Cows, entered or eligible for entry in the English Jersey Herd Book, obtaining the greatest number of points in the test, and Certificates of Merit were granted to Jersey Cows, not being Prize winners, entered or eligible for entry in the Herd Book, reaching the E.J.C.S. Standard of Merit.

† For the best quality of Butter produced by any Jersey Cow awarded a Medal, Prize, or Certificate of Merit in Class 121 or 122.

CLASS 122.—*Cow, of any breed or cross, 900lbs. live weight or over, obtaining the greatest number of points by the practical test of the separator and churn, judged by the scale of points adopted by the English Jersey Cattle Society.*

I. (#10).—W. P. VOSPER, Merafield, Plympton, Devon, red South Devon, **Honesty 3rd** (3930), born 7th November, 1898; s Prince Edward (517), d Honesty 2nd (2691).

II. (#3).—J. SPARROW WROTH, Coombe, Aveton Gifford, South Devon, **Nosegay 4th** (4365), born 4th January, 1900; s Old Fashion (653), d Nosegay 2nd (2737), s d Councillor (163).

DAIRY HERDS.

(The Prizes in Class 123 were given by the Newport Local Committee: and the animals were not exhibited in the Show Yard, but were judged on the farms to which they belonged.)

CLASS 123.—*Herd of Dairy Cows, of any breed, over 10 and not exceeding 25 in number, the property of a farmer or milk seller in Monmouthshire whose entire herd was submitted to the judge for inspection.* [2 entries.]

I. (#10).—J. THOMAS, Buildings Farm, Caerleon, Newport, Mon.

II. (#5).—G. W. STARK, Forge Farm, Caerleon, Newport, Mon.

SHEEP.

COTSWOLD.

CLASS 124.—*Cotswold Shearling Ram.* [4 entries.]

I. (#10).—W. T. GARNE & SON, Aldsworth, Northleach, R.S.O., Gloucestershire, born February, 1906.

II. (#5).—W. HOULTON, Broadfield Farm, Northleach, born January, 1906.

R.—W. HOULTON, born January, 1906.

CLASS 125.—*Pair of Cotswold Ram Lambs, dropped in 1907.*
[7 entries.]

I. (#10).—W. THOMAS, The Hayes, Sully, Cardiff, born about 20th January.

II. (#5).—W. T. GARNE & SON, Aldsworth, Northleach, R.S.O., Gloucestershire, born about 20th January.

III. (#2).—W. T. GARNE & SON, born about 1st February.

R.—W. HOULTON, Broadfield Farm, Northleach, born, January.

H.C.—W. THOMAS, born about 10th February.

xlii *Prizes awarded to Devon Long-Wool and Lincoln Sheep.*

CLASS 126.—*Pen of three Cotswold Shearling Ewes.* [3 entries.]

I. (£10.)—W. T. GARNE & SON, Aldsworth, Northleach, R.S.O., Gloucestershire, born February.

II. (£5.)—W. T. GARNE & SON, born February.

R.—W. HOULTON, Broadfield Farm, Northleach, born January, 1906.

DEVON LONG-WOOL.

CLASS 127,—*Devon Long-Wool Shearling Ram.* [7 entries.]

I. (£10.)—F. WHITE, Torweston, Williton, born February, 1906.

II. (£5.)—F. WHITE, born February, 1906.

III. (£2.)—J. G. PEDLER, The Barton, Sampford Peverell, Devon, born February, 1906.

R.—R. COOK, Crazelowman, Tiverton, born February, 1906.

H.C.—R. COOK, born February, 1906.

**CLASS 128.—*Pair of Devon Long-Wool Ram Lambs, dropped in 1907.*
[5 entries.]**

I. (£10.)—F. WHITE, Torweston, Williton, born February.

II. (£5.)—J. G. PEDLAR, The Barton, Sampford Peverell, Devon, born February.

R.—F. WHITE, born February.

H.C.—F. WHITE, born February.

**CLASS 129.—*Pen of three Devon Long-Wool Shearling Ewes.*
[5 entries.]**

I. (£10.)—R. COOK, Crazelowman, Tiverton, born February, 1906.

II. (£5.)—F. WHITE, Torweston, Williton, born February, 1906.

R.—F. WHITE, born February, 1906.

LINCOLN.

(The Prizes in Class 130 were given by the Lincoln Long-Wool Sheep Breeders' Association.)

CLASS 130.—*Lincoln Two Shear Ram.* [4 entries.]

I. (£7.)—T. CASSWELL, Pointon, Folkingham, born in February, 1905.

II. (£3.)—H. DUDDING, Riby Grove, Great Grimsby, Lincolnshire, born February, 1905, bred by F. Ward, Quarrington, Sleaford, Lincolnshire.

Prizes awarded to Lincoln and Southdown Sheep. xliii

CLASS 131.—*Lincoln Shearling Ram.* [8 entries.]

I. (#10.)—T. CASSWELL, Pointon, Folkingham, born February, 1906.

II. (#5.)—H. DUDDING, Riby Grove, Great Grimsby, Lincolnshire, born February, 1906.

III. (#2.)—T. CASSWELL, born February, 1906.

R. & H.C.—R. DIXON, Barff House, Brandesburton, Hull, born March, 1906.

**CLASS 132.—*Pair of Lincoln Ram Lambs, dropped in 1907.*
[2 entries.]**

I. (#10.)—H. DUDDING, Riby Grove, Great Grimsby, Lincolnshire, born February.

CLASS 133.—*Pen of three Lincoln Shearling Ewes.* [4 entries.]

I. (#10.)—H. DUDDING, Riby Grove, Great Grimsby, Lincolnshire, born February, 1906.

II. (#5.)—T. CASSWELL, Pointon, Folkingham, born in February, 1906.

R. & H.C.—R. DIXON, Barff House, Brandesburton, Hull, born March, 1906.

SOUTHDOWN.

(The Prizes in Class 134 were given by the Southdown Sheep Society.)

CLASS 134.—*Southdown Two Shear Ram.* [8 entries.]

I. (#10.) and Special*—C. R. W. ADEANE, Babraham Hall, near Cambridge, born about 1st February, 1905.

II. (#5.)—HIS MAJESTY THE KING, Sandringham, born February, 1905.

III. (#2.)—THE DUKE OF DEVONSHIRE, K.G., Compton Place, Eastbourne, born 14th February, 1905.

CLASS 135.—*Southdown Shearling Ram.* [11 entries.]

I. (#10.) and R. for Special*—C. R. W. ADEANE, Babraham Hall, near Cambridge, born about 1st February, 1906.

II. (#5.)—C. R. W. ADEANE, born about 1st February, 1906.

III. (#2.)—HIS MAJESTY THE KING, Sandringham, born February, 1906.

R. & H.C.—HIS MAJESTY THE KING, born February, 1906.

* Given by the Southdown Sheep Society, under Conditions 68—A Silver Medal for the best Ram or Ram Lamb in Classes 134, 135 or 136.

CLASS 136.—*Pair of Southdown Ram Lambs, dropped in 1907.*
[7 entries.]

I. (210.)—HIS MAJESTY THE KING, Sandringham, born February.

II. (25.)—THE DUKE OF DEVONSHIRE, K.G., Compton Place, Eastbourne, born 1st February.

III. (22.)—THE EXECUTORS OF THE LATE COL. H. MCCALMONT, Cheveley Park, Newmarket, born about 3rd March.

R. & H.C.—THE EXECUTORS OF THE LATE COL. H. MCCALMONT, born March.

CLASS 137.—*Pen of three Southdown Shearling Ewes.* [4 entries.]

I. (210.) and Special*—THE DUKE OF DEVONSHIRE, K.G., Compton Place, Eastbourne, born 4th February, 1906.

II. (25.) and R. for Special*—HIS MAJESTY THE KING, Sandringham, born February, 1906.

HAMPSHIRE DOWN.

CLASS 138.—*Hampshire Down Shearling Ram.* [9 entries.]

I. (210.)—J. FLOWER, Chilmark, Salisbury, born in February, 1906.

II. (25.)—H. C. STEPHENS, Cholderton, Salisbury, born 10th January, 1906.

III. (22.)—THE HON. D. P. BOUVERIE, Coleshill House, Highworth, born March, 1906.

R.—THE HON. D. P. BOUVERIE, born January, 1906.

CLASS 139.—*Pair of Hampshire Down Ram Lambs, dropped in 1907.* [9 entries.]

I. (210.)—J. FLOWER, Chilmark, Salisbury.

II. (25.)—H. C. STEPHENS, Cholderton, Salisbury, born 14th January.

III. (22.)—THE HON. D. P. BOUVERIE, Coleshill House, Highworth, Wilts. born January.

R.—J. FLOWER, Chilmark, Salisbury.

H.C.—SIR W. G. PEARCE, Bart., Chilton Lodge, Hungerford, Berks, born 9th January.

CLASS 140.—*Pen of three Hampshire Down Shearling Ewes.*
[1 entry.]

I. (210.)—SIR W. G. PEARCE, Bart., Chilton Lodge, Hungerford, Berks, born 11th January, 1906.

* Given by the Southdown Sheep Society, under Conditions 68—A Silver Medal for the best Pen of Ewes in Class 137.

Prizes awarded to Shropshire Sheep.

xlv

(The Prizes in Class 141 were given by the Hampshire Down Sheep Breeders' Association.

CLASS 141.—*Pen of three Hampshire Down Ewe Lambs, dropped in 1907.* [8 entries.]

I (#7).—H. C. STEPHENS, Cholderton, Salisbury, born 14th January.

II. (#3).—J. FLOWER, Chilmark, Salisbury.

R.—SIR W. G. PEARCE, Bart., Chilton Lodge, Hungerford, Berks, born 14th January.

H.C.—THE HON. D. P. BOUVERIE, Coleshill House, Highworth, Wilts, born January.

SHROPSHIRE.

CLASS 142.—*Shropshire Shearling Ram.* [13 entries.]

I. (#10).—M. WILLIAMS, Whiston Hall, Albrighton, born about middle of February, 1906.

II. (#5).—SIR R. COOPER, Bart., Ashlyns Hall, Berkhamstead, Herts, born 20th February, 1906.

III. (#2).—M. WILLIAMS, born about middle of February, 1906.

R.—A. TANNER, Shrawardine, Shrewsbury, born February, 1906.

H.C.—SIR R. COOPER, Bart., born 20th February, 1906.—SIR W. CORBET, Bart., Acton Reynold, Shrewsbury, born, 1906.—SIR W. CORBET, Bart., born 1906.—A. TANNER, born February, 1906.

C.—D. A. THOMAS, M.P., Llanwern Park, Newport, Mon., born March, 1906.

CLASS 143.—*Pair of Shropshire Ram Lambs, dropped in 1907.*
[7 entries.]

I. (#10).—SIR R. COOPER, BART., Ashlyns Hall, Berkhamsted, Herts, born 2nd and 5th February.

II. (#5).—M. WILLIAMS, Whiston Hall, Albrighton, born about middle of February.

III. (#2).—E. NOCK, Harrington Hall, Shifnal, born 2nd week of January.

R.—E. NOCK, born 1st week of January.

H.C.—SIR W. CORBET, Bart., Acton Reynold, Shrewsbury.—N. MORGAN, Penybryn, Llantwit Major, Cardiff, born March.

CLASS 144.—*Pen of three Shropshire Shearling Ewes.* [4 entries.]

I. (#10).—SIR R. COOPER, Bart., Ashlyns Hall, Berkhamsted, Herts, born about 20th February, 1906.

II. (#5).—SIR R. COOPER, Bart., born about 20th February, 1906.

R.—SIR W. CORBET, Bart., Acton Reynold, Shrewsbury, born 1906.

OXFORD DOWN.**CLASS 145.—*Oxford Down Shearling Ram.* [7 entries.]**

- I. (#10.)**—A. BRASSEY, Heythrop, Oxon, born 5th January, 1906.
II. (#5.)—J. HORLICK, Cowley Manor, near Cheltenham, born January, 1906.
III. (#2.)—A. BRASSEY, born 5th January, 1906.
R.—J. T. HOBBS, Maisey Hampton, Fairford, Gloucestershire, born February, 1906.
H.C.—J. T. HOBBS, born February, 1906.—J. HORLICK, born January, 1906.

CLASS 146.—*Pair of Oxford Down Ram Lambs, dropped in 1907.* [5 entries.]

- I. (#10.)**—G. ADAMS, Royal Prize Farm, Wadley House, Faringdon, Berks, born 1st week in January.
II. (#5.)—G. ADAMS, born 1st week in January.
R.—J. HORLICK, Cowley Manor, near Cheltenham, born January.

CLASS 147.—*Pen of three Oxford Down Shearling Ewes.* [4 entries.]

- I. (#10.)**—J. T. HOBBS, Maisey Hampton, Gloucestershire, born February, 1906.
II. (#5.)—J. HORLICK, Cowley Manor, near Cheltenham, born January, 1906.
R.—J. T. HOBBS, born February, 1906.
H.C.—J. HORLICK, born January, 1906.

(The Prizes in Class 148 were given by the Oxford Down Sheep Breeders' Association.)

CLASS 148.—*Pair of Oxford Down Ewe Lambs, dropped in 1907.* [5 entries.]

- I. (#6.)**—G. ADAMS, Royal Prize Farm, Wadley House, Faringdon, Berks, born 1st week of January.
II. (#3.)—G. ADAMS, born 1st week of January.
R.—J. HORLICK, Cowley Manor, near Cheltenham, born January.

WELSH MOUNTAIN.**CLASS 149.—*Welsh Mountain Two Shear or Shearling Ram.* [7 entries.]**

- I. (#10.)**—O. PRICE, Nantyrharn, Cray, Brecon, born March, 1906.
II. (#5.)—J. G. and J. Ll. GRATTON, Voryd Fawr Farm, Abergelle, Denbighshire, born 14th April, 1905.
III. (#2.)—W. B. RICHARDS, Gwern-y-doman, Caerphilly, born March, 1905, bred by Thomas Bros., Nant-madoc, Cray.

Prizes awarded to Welsh Mountain and Ryelands Sheep. xlvii

(The 1st Prizes in Classes 150, 151 and 152 were given by the Risca Committee of the Bedwellty Agricultural Society, and the 2nd and 3rd Prizes by the Newport Local Committee. Competition in them was confined to residents in South Wales and Monmouthshire.)

CLASS 150.—*Welsh Mountain Ram, two years old and upwards, calculated to suit the mountains of the District.* [5 entries.]

I. (25.)—D. THOMAS, Treweren uchaf, Cray, Brecon, born 4th April, 1904.

II. (23.)—O. PRICE, Nantyrharn, Cray, Brecon, born, March, 1905.

III. (22.)—W. B. RICHARDS, Gwern-y-doman, Caerphilly, born March, 1905, bred by Thomas Bros., Nant-madoc, Cray.

CLASS 151.—*Pen of three Welsh Mountain Ewes, from two to four years old, best suited to the mountains of the District.* [3 entries.]

I (25.)—O. PRICE, Nantyrharn, Cray, Brecon, born March, 1905 (2) and March, 1903 (1).

II. (23.)—D. THOMAS, Treweren uchaf, Cray, Brecon, born April, 1905.

III. (22.)—R. S. ROWLAND, The Garth, Llanio Road, R.S.O., born March, 1904 and 1905.

CLASS 152.—*Pen of three Welsh Mountain Wethers, from two to four years old, best suited to the mountains of the District.* [4 entries.]

I. (25.)—E. NICHOLAS & SON, The Aeral Farm, Abertillery, born 10th March, 1903.

II. (23.)—D. THOMAS, Treweren uchaf, Cray, Brecon, born March, 1904.

III. (22.)—POWELL DUFFRYN STEAM COAL CO., LTD., Aberaman Farm, Aberaman, Aberdare, born 10th and 16th March, 1903 (2), and 20th March, 1904 (1).

CLASS 153.—*Pen of three Welsh Mountain Shearling Ewes.*
[4 entries.]

I. (210.)—O. PRICE, Nantyrharn, Cray, Brecon, born March, 1906.

II. (25.)—J. G. & J. LL. GRATTON, Voryd Fawr Farm, Abergelge, Denbighshire, born 16th April, 1906.

H.C.—Mrs. G. ELLIS, Llynhendre, Bangor, born March, 1906.

RYELANDS.

(The Prizes in Classes 154 and 155 were given by the Newport Local Committee, but competition in them was open.)

CLASS 154.—*Ryelands Shearling Ram.* [3 entries.]

I. (25.)—W. T. BARNEBY, Saltmarshe Castle, Bromyard, born March, 1906.

xlvi *Prizes awarded to Somerset and Dorset Horn Sheep.*

II. (£3.)—F. E. GOUGH, The Moor, Bodenham, Leominster, born 12th March, 1906.

C.—W. T. BARNEBY, born March, 1906.

CLASS 155.—*Pen of three Ryelands Ewes.* [3 entries.]

I. (£5.)—F. E. GOUGH, The Moor, Bodenham, Leominster, born March, 1906.

II. (£3.)—W. T. BARNEBY, Saltmarshe Castle, Bromyard, born March, 1906.

C.—W. T. BARNEBY, born March, 1906.

SOMERSET AND DORSET HORN.

CLASS 156.—*Somerset and Dorset Horn Shearling Ram.* [4 entries.]

I. (£10.)—E. A. HAMBRO, Milton Abbey, Blandford, Dorset, born 7th November, 1905.

II. (£5.)—W. R. FLOWER, West Stafford, Dorchester, Dorset, born 20th March, 1906.

R.—F. J. MERSON, Farrington, North Petherton, Bridgwater, born 2nd week in December, 1905.

CLASS 157.—*Pair of Somerset and Dorset Horn Ram Lambs, dropped after November 1st, 1906.* [4 entries.]

I. (£10.)—W. R. FLOWER, West Stafford, Dorchester, Dorset, born 10th November, 1907.

II. (£5.)—E. A. HAMBRO, Milton Abbey, Blandford, Dorset, born 20th November, 1906.

R.—W. R. FLOWER, born 10th November, 1907.

CLASS 158.—*Pen of three Somerset and Dorset Horn Shearling Ewes.* [5 entries.]

I. (£10.)—E. A. HAMBRO, Milton Abbey, Blandford, Dorset, born 14th November, 1905.

II. (£5.)—F. J. MERSON, Farrington, North Petherton, Bridgwater, born 2nd week in December, 1905.

R.—W. R. FLOWER, West Stafford, Dorchester, Dorset, born 2nd December, 1905.

H.C.—E. A. HAMBRO, born 7th November, 1905.

PIGS.

BERKSHIRE.

CLASS 159.—*Berkshire Boar, farrowed in 1904, 1905 or 1906.*
[10 entries.]

I. (37.) and **R.** for Special *—G. T. INMAN, Highmoor Hall, Henley-on-Thames, **Highmoor Curio** (11807), born 3rd January, 1906; s Highmoor Mikado (10433), d Danesfield Bluebell (8757), s d Danesfield Haymaker (8236).

II. (33.)—J. LAWRENCE, Stall Pitts, Shrivenham, **Lamas**, born 12th July, 1904; s Leibeg (9843), d Charming Beauty 2nd (9832), s d Lord Burton (8840).

III. (32.)—J. JEFFERSON, Peel Hall, Chester, **Peel Czar** (12343), born 4th January, 1906, bred by A. Hiscock, Motcombe, Shaftesbury; s Velmore Czar (11855), d Lady Manston (12342), s d First Rank F. (7422).

R.—THE DUCHESS OF DEVONSHIRE, Compton Place, Eastbourne, **Polegate Donovan** (11097), born 2nd June, 1905; s Cecil Augustus (7756), d Polegate Dinah (10381), s d Baron Kitchener (8403).

C.—G. J. B. CHETWYND, Wyndthorpe, near Doncaster, **Highmoor Santor** (11805), born 3rd January, 1906, bred by G. T. Inman, Highmoor Hall, near Henley-on-Thames; s Highmoor Mikado (10433), d Danesfield Bluebell (8757).
—R. SWANWICK, Royal Agricultural College Farm, Cirencester, **Quality Jim**, born 15th August, 1905; s High Quality, d Buscot Madge (10397), s d Danesfield Julius (8153).

CLASS 160.—*Pair of Berkshire Boars, farrowed in 1907.* [11 entries.]

I. (35.)—G. J. B. CHETWYND, Wyndthorpe, near Doncaster, born 13th January; s Don Confidence (10987), d Happy Doon (11123).

II. (32.)—THE DUCHESS OF DEVONSHIRE, Compton Place, Eastbourne, born 2nd January; s Harold H (10238), d Polegate Dowerless (11099), s d Baron Kitchener (8403).

III. (31.)—G. T. INMAN, Highmoor Hall, Henley-on-Thames, born 5th January; s Highmoor Mikado (10433), d Compton Jewel (9605), s d Baron Kitchener (8403).

R.—J. LAWRENCE, Stall Pitts, Shrivenham, Berks, born 11th January; s Lamos (11299), d Kingstone Jesamine (9586), s d College Boy (8055).

V.H.C.—J. A. FRICKER, Suddon Grange, Wincanton, Somerset, born 8th January; s Fightable F.B. (11246), d May F.B. (11556).

H.C.—E. J. MORANT, J.P., Brokenhurst Park, Hants, born 24th January; s Hayward Hightide, d Hayward Haybag, s d Ard Patrick.

* Given by the British Berkshire Society, for best Boar or Sow in the Berkshire Classes entered in, or eligible for, the Herd Book, whose Sire and Dam, together with the name of its Breeder, were entered in the Catalogue.

Prizes awarded to Berkshire Pigs.

CLASS 161.—Berkshire Breeding Sow, farrowed before 1907.
[12 entries.]

I. (27.) and Special **(25)***—**THE DUCHESS OF DEVONSHIRE**, Compton Place, Eastbourne, **Polegate Dorcas 2nd** (12213), born 18th June, 1905, bred by R. B. Vincent, Compton Valence; s Supreme's Boy (9743), d Compton Rosebud (11161), s d Compton Bruce (9602).

II. (23.)—G. T. INMAN, Highmoor Hall, Henley-on-Thames, **Highmoor Empress** (12184), born 6th April, 1905, bred by W. J. Chick, Stratton, Dorchester; s Stratton Monarch (10483), d Stratton Countess (9769), s d Faithful Arthur (8278).

III. (22.)—**THE DUCHESS OF DEVONSHIRE, Polegate Dovecote** (9819), born 4th December, 1903; s Cecil Augustus (7756), d Polegate Debate (9157), s d Baron Kitchener (8403).

R.—F. EVANS, St. Athan, near Cardiff, **Breaksea Queen** (8993), born 16th December, 1901; s Breaksea Jack (7808), d Breaksea Letty (7807), s d Prince Barcaldine (7806).

H.C.—G. T. INMAN, **Highmoor Geisha** (11808), born 3rd January, 1906; s Highmoor Mikado (10433), d Danesfield Bluebell (8757), s d Danesfield Haymaker (8236).—E. J. MORANT, J.P., Brokenhurst Park, Hants, **Hayward Beauty 2nd**, born 27th January, 1905; s Marlborough 2nd, d Hayward Beauty, s d Manor Palladwr.

CLASS 162.—Pair of Berkshire Breeding Sows, farrowed in 1907.
[14 entries.]

I. (25.)—G. T. INMAN, Highmoor Hall, Henley-on-Thames, born 5th January; s Highmoor Mikado (10433), d Danesfield Bluebell (8757), s d Danesfield Haymaker (8236).

II. (22.)—G. J. B. CHETWYND, Wyndthorpe, near Doncaster, born 13th January; s Don Confidence (10987), d Happy Doon (11123).

III. (21.)—J. A. FRICKER, Suddon Grange, Wincanton, Somerset, born 2nd March; s Fightable F.B. (11246), d Freebody (12042).

R.—**THE DUCHESS OF DEVONSHIRE**, Compton Place, Eastbourne, born 4th January; s Harold H. (10238), d Polegate Dorothy (10390), s d Baron Kitchener (8403).

V.H.C.—J. A. FRICKER, born 1st January; s Hightide F.B. (9373), d Free-woman F.B. (10080).

H.C.—G. T. INMAN, born 18th January; s Highmoor Shogun (11806), d Highmoor Gem (10427), s d Barsac (7645).—J. LAWRENCE, Stall Pitts, Shrivenham, Berks, born 27th January; s Coleshill Kitchener (10407), d Buscot Gladys (12118), s d Leibeg (9843).—R. SWANWICK, Royal Agricultural College Farm, Cirencester, born 7th January; s Hightide, d Sallie 1047th (10393), s d High Quality (8299).

* Given by the British Berkshire Society for the best Boar or Sow in the Berkshire Classes, entered in, or eligible for, the Herd Book, whose Sire and Dam, together with the name of its Breeder, were entered in the Catalogue.

LARGE BLACK.

CLASS 163.—*Large Black Boar, farrowed in 1904, 1905, or 1906.*

[7 entries.]

I. (#7.)—H. J. KINGWELL, Great Aish, South Brent, Devon, **Brent Pride 2nd** (1379), born 7th April, 1905 ; s Trescowe Pride (875), d Sally (2014).

II. (#3.)—R. R. ROTHWELL, Fulwood Hall Farm, Preston, Lancashire, **Normanton Hero** (1477), born 1st January, 1905, bred by A. S. Mann, Little Bentley Hall, Colchester ; s Usibepu (1151), d Matilda (2076), s d Duke of Devonshire 2nd (321).

III. (#2.)—J. WARNE, Treveglos, St. Mabyn, R.S.O., Cornwall, **Treveglos Trevemper**, born 1st July, 1905 ; s Trevisquite Confidence (1203), d Treveglos Beauty 4th (4554), s d Trevisquite Conqueror (679).

R.—W. WILLS, Old Court, Tortworth, Falfield, Gloucestershire, **Tortworth Duke** (1793), born 1st May, 1906 ; s Lustleigh Masterpiece (1403), d Susan 4th (2424), s d Lustleigh Boy (287).

V.H.C.—W. J. WARREN, Mill House, Ash Priors, near Taunton, Somerset, **The Prior** (1427), born 10th August, 1905, bred by S. Onley, The Priory, Ash Priors, near Taunton, Somerset ; s Hendra Pride (509), d Barbara (3978), s d Enterprise (581).

CLASS 164.—*Pair of Large Black Boars, farrowed in 1907.*

[6 entries.]

I. (#5.)—T. WARNE, Trevisquite Manor, St. Mabyn, R.S.O., Cornwall, born 5th January ; s Brent Chief (1243), d Trevisquite Lady (3024).

II. (#2.)—J. WARNE, Treveglos, St. Mabyn, R.S.O., born 5th January ; s Brent Chief (1243), d Treveglos Lady (5404), s d Cornish King (893).

III. (#1.)—J. O. MUNTZ, Goodameavy, Yelverton, South Devon, born 7th January ; s Goodameavy Contango (1717), d Goodameavy Nightcap (4894), s d Goodameavy Cyclone (1183).

R.—J. BASTARD & SONS, Tinten Manor, St. Tudy, R.S.O., Cornwall, born 1st February ; s Tinten Chieff (1541), d Tinten Model 10th (5442), s d Walesborough Chieff.

CLASS 165.—*Large Black Breeding Sow, farrowed before 1907.*

[12 entries.]

I. (#7.)—J. WARNE, Treveglos, St. Mabyn, R.S.O., **Treveglos Hopeful 2nd** (4998), born 1st February, 1905 ; s Trevisquite Longfellow (965), d Treveglos Hopeful (2580), s d Trevisquite Leader (403).

II. (#3.)—J. O. MUNTZ, Goodameavy, Yelverton, South Devon, **Goodameavy Sunshine** (5044), born 27th July, 1905 ; s Goodameavy Cyclone (1183), d Cornwood Lass 5th (3316), s d Tinten Squire (401).

III. (#2.)—W. WILLS, Old Court, Tortworth, Falfield, Gloucestershire, **Marchioness 1st** (5054), born 6th November, 1903 ; s Cornwood Marquis (633), d Susanna 8th (3846), s d General Buller (327).

R.—J. O. MUNTZ, **Goodameavy Dream** (4668), born 27th November, 1904 ; s Goodameavy Cyclone (1183), d Goodameavy Gloaming (3534), s d Cornwood Marquis (633).

V.H.C.—J. BASTARD & SONS, Tinten Manor, St. Tudy, R.S.O., Cornwall.
Tinten Black Bess 5th, born 25th May, 1901; s Tinten Happy Boy (139), d
 Tinten Black Bess 2nd (528).—R. R. ROTHWELL, Fulwood Hall Farm, Preston,
 Lancashire, **Fulwood Beauty**, born 28th July, 1905; s Trescowe King (1251),
 d Trescowe Beauty, s d Trescowe Pride.

H.C.—C. D. PHILLIPS, The Gaer, Newport, Mon., **Stroud Princess** (5414),
 born 1st June, 1905; bred by W. Townsend, The Manse, Stroud, Gloucester-
 shire; s Borstal Masterpiece (841), d Stroud Wonder (3306), s d Goldfinder (449).

(The Prizes in Class 166 were given by the Large Black Pig Society).

CLASS 166.—*Large Black Breeding Sow, not exceeding 12 months old
 prior to May 1st, 1907. [10 entries.]*

I. (27.)—J. O. MUNTZ, Goodameavy, Yelverton, South Devon, **Goodameavy
 Punchinella**, born 15th July, 1906, bred by J. H. Glover, Cornwood, South
 Devon; s Cornwood King (1467), d Cornwood Lass 20th (5020), s d General
 Buller (327).

II. (23.)—J. O. MUNTZ, **Goodameavy Medusa** (6130), born 4th July, 1906; s
 Goodameavy Stormfiend (1457), d Goodameavy Nightcap (4894), s d Gooda-
 meavy Cyclone (1183).

III. (22.)—W. J. WARREN, Mill House, Ash Priors, near Taunton, Somerset.
Priory Lady (6140), born 4th October, 1906, bred by S. Onley, The Priory, Ash
 Priors, Taunton, Somerset; s Cothelstone Victor (1435), d Barbara (3978), s d
 Enterprise (581).

R.—J. WARNE, Treveglos, St. Mabyn, R.S.O., **Treveglos Lass 2nd** (6220), born
 May 20th, 1906; s Trevisquite Confidence, (1203), d Treveglos Lass (4996), s d
 Trevisquite Cornish (937).

V.H.C.—C. D. PHILLIPS, The Gaer, Newport, Mon., **Stroud Pride 1st**, born
 15th June, 1906, bred by W. Townsend, The Manse, Stroud, Gloucestershire;
 s Borstal Masterpiece (841), d Cotswold Pride (3286), s d Hendra Pride (509)

CLASS 167.—*Pair of Large Black Breeding Sows, farrowed in 1907.
 [9 entries.]*

I. (25.)—J. WARNE, Treveglos, St. Mabyn, R.S.O., born 5th January; s
 Brent Chief (1243), d Treveglos Lady (5404), s d Cornish King (893).

II. (22.)—J. O. MUNTZ, Goodameavy, Yelverton, South Devon, born 14th
 January; s Goodameavy Triumph (1717), d Goodameavy Aurora (4692), s d
 Goodameavy Cyclone (1183).

III. (21.)—J. BASTARD & SONS, Tinten Manor, St. Tudy, R.S.O., Cornwall,
 born 1st February, 1907; s Tinten Chieff (1541), d Tinten Model 10th (5442),
 s d Whalesborough Chieff.

R.—T. WARNE, Trevisquite Manor, St. Mabyn, Cornwall; s Brent Chief
 (1243), d Trevisquite Lady (3024).

H.C.—H. J. KINGWELL, Great Aish, South Brent, Devon, born 2nd Jan-
 uary; s Brent Pride 2nd (1379), d Brent Royal Rosette (4820), s d General
 Buller (327).

LARGE WHITE.

CLASS 168.—*Large White Boar, farrowed in 1904, 1905 or 1906.* [5 entries.]

I. (27.) and **Special***—**THE EARL OF ELLESMERE**, Worsley Hall, near Manchester, **Worsley Eclipse 9th** (9365), born 3rd July, 1904; s **Borrowfield Eclipse** (5427), d **Worsley Princess** (13178), s d **Bottesford Long Sam** (5893).

II. (23.)—**C. J. TONG**, Great Towbrick Farm, Hambleton, Poulton-le-Fylde, **Shard Roger** (8725), born 22nd January, 1904; s **Roger** (7203), d **Shard Floss 4th** (12938), s d **Shard Sam** (5641).

R.—**C. SPENCER**, Holywell Manor, St. Ives, Hunts, **Holywell Happy**, born 28th August, 1905, bred by **S. Spencer**, Holywell, St. Ives; s **Holywell Sowerby** (7775), d **Holywell Daygirl** (15794), s d **Holywell John Day** (6409).

G.—**R. M. KNOWLES**, Colston Bassett Hall, Notts, **Bingham Vanguard** (8429), born 4th January, 1904; s **Vanguard** (7261), d **Colston Lass** (11216), s d **Ruddington King David** 5th.

CLASS 169.—*Pair of Large White Boars, farrowed in 1907.*
[5 entries.]

I. (25.)—**THE EARL OF ELLESMERE**, Worsley Hall Farm, Manchester, born 3rd January; s **Worsley Eclipse 9th** (9365), d **Hope of Worsley** (18908), s d **Sowerby Laddie** (7249).

II. (22.)—**R. R. ROTHWELL**, Fulwood Hall Farm, Preston, Lancashire, born 1st January; s **Manshall Baron Fulwood** (Vol. xxiii, N.P.B.A.), d **Fulwood Queen 1st** (Vol. xxiii, N.P.B.A.), s d **Fulwood Duke** (8569).

R.—**THE EARL OF ELLESMERE**, born 6th January; s **Worsley Roger** (8827), d **Choice of Worsley** (Vol. xxiii), s d **Bourne Long Sam** (8499).

G.—**C. J. TONG**, Great Towbrick Farm, Hambleton, Poulton-le-Fylde, born 27th January; s **Shard Roger 2nd** (8727), d **Shard Pride** (16078), s d **Pride of Erin** (6533).

CLASS 170.—*Large White Breeding Sow, farrowed before 1907.* [6 entries.]

I. (27.) and **R.** for **Special***—**R. M. KNOWLES**, Colston Bassett Hall, Bingham, Notts, **Colston Lass 13th** (15562), born 4th January, 1904; s **Vanguard** (7261), d **Colston Lass** (11216), s d **Ruddington King David** 5th.

II. (23.)—**THE EARL OF ELLESMERE**, Worsley Hall, near Manchester, **Borrowfield Rose 103rd** (15502), born 21st June, 1903, bred by **J. Barron**, Borrowash, Derby; s **Borrowfield Hercules** (7551), d **Borrowfield Rose 58th** (9382), s d **Borrowfield Ringleader 2nd** (3863).

* Given by the National Pig Breeders' Association, three Gold Medals, value £3 3s. each (or £3 3s. in money), for the best animal of each breed exhibited in the Large White, Middle White, or Tamworth Classes, eligible for the Herd Book, and the names and numbers of whose sire and dam appeared in the Catalogue.

III. (22.)—S. H. BAKER, Lodge Farm, Caerleon, born 21st May, 1905.

R.—C. D. PHILLIPS, The Gaer, Newport, Mon., **Walton Starlight 4th**, born 26th August, 1904, bred by Sir G. Greenall, Bart., Walton Hall, Warrington: s Walton Turk 9th (8027), d Walton Starlight 2nd (14772), s d Pride of Erin (6533).

CLASS 171.—*Pair of Large White Breeding Sows farrowed in 1907.* [5 entries.]

I. (25.)—R. M. KNOWLES, Colston Bassett Hall, Notts, born 2nd January: s Colston Jonas, d Colston Lass, s d Vanguard.

II. (22.)—THE EARL OF ELLESMERE, Worsley Hall, near Manchester, born 4th January: s Bottesford Worsley (9015), d Dame Worsley 45th (16852), s d Borrowfield Eclipse (5427).

R.—R. R. ROTHWELL, Fulwood Hall Farm, Preston, Lancashire, born 1st January: s Marshall Baron Fulwood (Vol. xxiii, N.P.B.A.), d Fulwood Queen 1st (Vol. xxiii), s d Fulwood Duke (8569).

MIDDLE WHITE.

CLASS 172.—*Middle White Boar, farrowed in 1904, 1905 or 1906.* [2 entries.]

I. (27.) and **R** for Special*—A. C. TWENTYMAN, Castlecroft, Wolverhampton, **Castlecroft Golliwog** (9385), born 20th January, 1905: s Castlecroft Pharoah (8113), d Castlecroft Betty (16258), s d Castlecroft Little John (7343).

R.—C. SPENCER, Holywell Manor, St. Ives, Hunts, **Holywell Vicar**, born 11th February, 1905, bred by S. Spencer & Sons, Holywell: s Holywell Viscount (8179), d Holywell Rosarene 2nd (Vol. xxiii, N.P.B.A.), s d Holywell Middleton (8169).

CLASS 173.—*Pair of Middle White Boars, farrowed in 1907.* [5 entries.]

I. (25.)—THE HON. D. P. BOUVERIE, Coleshill House, Highworth, Wilts, born 5th January: s Coleshill Dandy, d Jewel 2nd.

II. (22.)—L. C. PAGET, Harewood, near Leeds, born 9th January: s Wharfedale Happy Lad (9467), d Wharfedale Barmaid (17810), s d Holywell Sherborne (8173).

R.—C. SPENCER, Holywell Manor, St. Ives, Hunts, born 1st January: s Holywell Rosario (8857), d Holywell Vicaress, s d Holywell Viscount (8179).

* Given by the National Pig Breeders' Association, three Gold Medals, value £3 3s. each (or £3 3s. in money), for the best animal of each breed exhibited in the Large White, Middle White, or Tamworth Classes, eligible for the Herd Book, and the names and numbers of whose sire and dam appeared in the Catalogue.

**CLASS 174.—Middle White Breeding Sow, farrowed before
1907. [4 entries.]**

I. (27.) and Special*—L. C. PAGET, Harewood, Leeds, **Holywell Barbara** (16320), born 1st January, 1903, bred by S. Spencer, Holywell Manor, St. Ives; s Holywell Middleton (8169), d Holywell Curly Rose 2nd, s d Holywell Count Curry (5713).

II. (23.)—L. C. PAGET, **Warren Sweetbriar** (17804), born 7th March, 1905, bred by T. S. Jay, The Warren, Wimbledon; s Holywell Manchester (8855), d Warren Rosy Dawn (16376), s d Sherborne Baron (7409).

R.—A. C. TWENTYMAN, Castlecroft, Wolverhampton, **Castlecroft Lobelia** (14958), born 19th January, 1903; s Castlecroft Little John (7343), d Castlecroft Ladysmith 2nd (11852), s d Castlecroft Pretorius (5701).

**CLASS 175.—Pair of Middle White Breeding Sows, farrowed in
1907. [5 entries.]**

I. (25.)—L. C. PAGET, Harewood, Leeds, born 9th January; s Wharfedale Happy Lad (9467), d Wharfedale Barmaid (17810), s d Holywell Sherborne (8173).

II. (22.)—J. A. FRICKER, Suddon Grange, Wincanton, Somerset, born 4th January.

R.—THE HON. D. P. BOUVERIE, Coleshill House, Highworth, Wilts, born 5th January; s Coleshill Dandy, d Jewell 2nd.

TAMWORTH.

**CLASS 176.—Tamworth Boar, farrowed in 1904, 1905 or
1906. [6 entries.]**

I. (27.)—D. W. PHILIP, The Redlands, Whitacre, Birmingham, **Director of Whitacre** (10381), born 20th August, 1905, bred by H. C. Stephens, Cholderton, Salisbury; s Cholderton de Cusack (7435), d Cholderton Fancy (15202), s d Knowle Forester (5369).

II. (23.)—R. IBBOTSON, Knowle, Warwickshire, **Knowle Don** (10393), born 11th July, 1906; s Cicero (9475), d Knowle Beauty 2nd (17886), s d Rolleston Victor.

III. (22.)—R. IBBOTSON, **Knowle Lycidas** (10421), born 3rd September, 1905; s Knowle Bounder (8945), d Knowle Chestnut 5th (16502), s d Knowle Forester (5369).

R.—R. IBBOTSON, **Lydney Red Gauntlet** (9517), born 21st June, 1905, bred by C. Bathurst, jun., Red Hill, Lydney; s Whitacre Cockney (8985), d Whitacre Fancy (16632), s d Whitacre Bounder.

H.C.—H. C. STEPHENS, Cholderton, Salisbury, **Cholderton Golden Jewel**, born 10th August, 1906; s Rolleston Victor (8375), d Cholderton Favourite 8th (13396), s d Knowle King 3rd (4945).

* Given by the National Pig Breeders' Association, three Gold Medals, value £3 3s. each (or £3 3s. in money), for the best animal of each breed exhibited in the Large White, Middle White, or Tamworth Classes, eligible for the Herd Book, and the names and numbers of whose sire and dam appeared in the Catalogue.

CLASS 177.—Pair of Tamworth Boars, farrowed in 1907. [6 entries.]

I. (25.)—R. IBBOTSON, Knowle, Warwickshire, born 12th January, bred by Mrs. E. Ibbotson, Gun Hill, Arley, Warwickshire; s Scarlet Gem, d Gem of Gun Hill, s d Whitacre Radium.

II. (22.)—H. C. STEPHENS, Cholderton, Salisbury, born 4th January; s Rolleston Victor (8375), d Cholderton Beauty 4th (12046), s d Knowle King 3rd (4945).

III. (21.)—R. IBBOTSON, born 15th January; s Rolleston Victor, d Cholderton Favourite 11th, s d Knowle Forester.

R.—D. W. PHILIP, The Redlands, Whitacre, Birmingham, born 12th January; s Scarlet Gem (9553), d Whitacre Marjorie (20326), s d Whitacre Unionist 2nd.

V.H.C.—H. C. STEPHENS, born 4th January; s Rolleston Victor (8375), d Cholderton Beauty 4th (12046), s d Knowle King 4th (4945).

H.C.—E. DE HAMEL, Middleton Hall, Tamworth, born 6th January; s Middleton Matoppo (9537), d Middleton Megallie (16576), s d Middleton Main-spring (6825).

CLASS 178.—Tamworth Breeding Sow, farrowed before 1907.
[9 entries.]

I. (27.) and **Specials****—R. IBBOTSON, Knowle Warwickshire, **Cholderton Jennie** (13402), born 7th July, 1901, bred by H. C. Stephens, Cholderton, Salisbury: s Knowle King 3rd (4945), d Whitacre Beauty (8526), s d Warwickshire Monarch.

II. (23.) and **R.** for **Specials****—D. W. PHILIP, The Redlands, Whitacre, Birmingham, **Whitacre Grace** (20324), born 5th January, 1906; s Whitacre Radium (8987), d Whitacre Countess 9th (12188), s d Whitacre Welshman (5411).

III. (22.)—H. C. STEPHENS, Cholderton, Salisbury, **Cholderton Beauty 20th** (17848), born 2nd January, 1905; s Cholderton De Cusack (7435), d Cholderton 10th (13368), s d Knowle Forester (5369).

* Given by the National Pig Breeders' Association, three Gold Medals, value £3 3s. each (or £3 3s. in money), for the best animal of each breed exhibited in the Large White, Middle White, or Tamworth Classes, eligible for the Herd Book and the names and numbers of whose sire and dam appeared in the Catalogue.

† Given by the British Tamworth Pig Breeders' Association, a Challenge Bowl, value £15 15s., for the best exhibit in the Tamworth Classes, entered or eligible for entry in the National Pig Breeders' Association Herd Book. The Cup to be won two years in succession or three times altogether before becoming the property of the winner. A Gold Medal, value £3 3s., was also offered, which became the property of the Exhibitor of the Animal awarded the Challenge Cup. The Medal is not awarded in any year when the Cup is won outright. No Pig or Pen of Pigs could win more than one Cup or Medal given by the Association in any one year.

Prizes awarded to Tamworth and White Breed Pigs. lvii

R.—H. C. STEPHENS, Cholderton Fern (16459), born 20th February, 1904 ; s Whitacre Bounder (7511), d Whitacre Favourite (7830), s d Knowle Rector (3783).

V.H.C.—R. IBBOTSON, Knowle Bessie, born 1st August, 1905 ; s Knowle King Rupert, d Cholderton Buzzer.—C. BATHURST, Redhill, Lydney, Gloucestershire, **Whitacre Fancy** (16622), born 7th January, 1904, bred by H. C. Stephens, Cholderton, Salisbury, Wilts ; s Whitacre Bounder (7511), d Cholderton Favourite 11th (13400), s d Knowle Forester (5369).

H.C.—C. BATHURST, **Whitacre Geranium**, born 10th January, 1904, bred by D. W. Philip, The Ashes, Whitacre, Birmingham ; s Whitacre Unionist (6873), d Whitacre Cactus (13562), s d Amington Duke (5753).—E. DE HAMEL, Middleton Hall, Tamworth, **Middleton Mileta** (Vol. xxiii), born 1st January, 1907 ; s Middleton Majestic (8971), d Middleton Megallie (16576), s d Middleton Mainspring (6825).—R. IBBOTSON, **Knowle Cherry**, born 2nd August, 1905 ; s Knowle Bounder, d Knowle Crocus.

CLASS 179.—Pair of Tamworth Breeding Sows, farrowed in 1907.
[5 entries.]

I. (25.)—R. IBBOTSON, Knowle, Warwickshire, born 12th January, bred by Mrs. E. Ibbotson, Gun Hill, Arley, Warwickshire ; s Scarlet Gem, d Gem of Gun Hill, s d Whitacre Radium.

II. (22.)—D. W. PHILIP, The Redlands, Whitacre, Birmingham, born 12th January ; s Scarlet Gem (9553), d Whitacre Marjorie (20326), s d Whitacre Unionist 2nd.

R.—R. IBBOTSON, born 16th January ; s Lydney Red Gauntlett, d Knowle Golden Dame, s d Knowle Bounder.

V.H.C.—E. DE HAMEL, Middleton Hall, Tamworth, born 6th January ; s Middleton Matoppo (9537), d Middleton Megallie (16576), s d Middleton Mainspring (6825).

H.C.—H. C. STEPHENS, Cholderton, Salisbury, born 2nd January ; s Cholderton Count (9479), d Cholderton Rose, s d Cholderton Bounder (9477).

(The Prizes in Classes 180 to 183 were offered by the Newport Local Committee and competition in them were confined to residents in South Wales or Monmouthshire.)

ANY WHITE BREED.

CLASS 180.—Any White Boar and Sow, under one year old.
[2 entries.]

I. (25.)—C. D. PHILLIPS, The Gaer, Newport, Mon., born 1st September, 1906 ; s Walton Trader, by Sowerby Ringleader (7963), d Walton Starlight 4th (16190), s d Walton Turk 9th (8027).

II. (23.)—C. D. PHILLIPS, boar, **Barrow Earl**, born 6th August, 1906, bred by J. Blundell, Lower Burrow, Scotforth, Lancaster ; s Sowerby Earl (8743), d Shand Floss 12th (17380), s d Roger (7203) ; and sow, **Marshfield Augustine**, born 14th July, 1906 ; s Walton Trader, d Walton Augustine 4th (14682). s d Walton Albert (6585).

CLASS 181.—*Any White Sow and Litter. Litter not to exceed 3 months old.* [1 entry.]

I. (25.)—C. D. PHILLIPS, The Gaer, Newport, Mon., **Manor Belle**, born 1st November, 1905, bred by A. Hiscock, Manor Farm, Motcombe, Shaftesbury; s Rising Sun (6547), d Margaret (14232), s d Manor Albert (3993).

ANY BLACK BREED.

CLASS 182.—*Any Black Boar and Sow under one year old.*
[1 entry.]

I. (25.)—C. D. PHILLIPS, The Gaer, Newport, Mon., boar, born 12th July, 1906, bred by W. Townsend, The Manse, Stroud, Gloucestershire, s Borstall Masterpiece (841), d Cirencester Wonder (4144), s d Hasketon Black Boy (609); and sow, **Stroud Pride 1st**, born 15th June 1906, bred by W. Townsend, The Manse, Stroud, Gloucestershire; s Borstall Masterpiece (841), d Cotswold Pride (3286), s d Hendra Pride (509).

CLASS 183.—*Any Black Sow and Litter, Litter not to exceed 3 months old.* [3 entries.]

I. (25.)—C. D. PHILLIPS, The Gaer, Newport, Mon., **Stroud Princess**, born 1st June, 1905, bred by W. Townsend, The Manse, Stroud, Gloucestershire; s Borstal Masterpiece (841), d Stroud Wonder (3306), s d Goldfinder (449).

II. (23.)—F. EVANS, St. Athan, near Cardiff, **Breaksea Queen** (8993), born 16th December, 1901; s Breaksea Jack (7808), d Breaksea Letty (7807), s d Prince Barcaldine (7806).

PRODUCE.

CIDER.

(Open to Growers or Makers.)

First Prize in each of the Classes 184 to 186, a Gold Medal and a Certificate.

Second Prize ditto, a Silver Medal and a Certificate.

Third Prize ditto, a Bronze Medal and a Certificate.

CLASS 184.—*Cask of not less than 18 and not more than 30 gallons of Cider, made in 1906.* [14 entries.]

I.—R. ROUT & SON.

II.—W. T. S. TILLEY.

III.—H. J. DAVIS.

R.—D. J. CROFTS & SON.

CLASS 185.—12 *Bottles of Cider, made in 1906.* [27 entries.]

I.—W. T. S. TILLEY.

II.—W. T. S. TILLEY.

III.—R. JOHNSON.

R.—C. DART.

V.H.C.—W. T. S. TILLEY.

H.C.—D. J. CROFTS & SON.—T. STONE.

C.—J. KINSFY.—T. STONE.

CLASS 186.—12 *Bottles of Cider, made in any year previous to 1906.*
[8 entries.]

I.—R. H. RIDLER & SON.

II.—T. STONE.

III.—W. T. S. TILLEY.

R.—D. J. CROFTS & SON.

H.C.—R. JOHNSON.

(The Prizes in Classes 187, 188 and 189 were given by the Monmouthshire County Council.)

CLASS 187.—9-Gallon *Cask of Cider made in Monmouthshire in 1906.*
[6 entries.]

I. (£1 10s.)—R. JOHNSON.

II. (£1.)—E. A. STEAD.

III. (10s.)—J. TAYLOR.

R.—MRS. STEAD & SONS.

CLASS 188.—12 *Bottles of Cider made in Monmouthshire in 1906.*
[6 entries.]

I. (£1 10s.)—R. JOHNSON.

II. (£1.)—A. E. JONES.

III. (10s.)—J. W. DAVIES.

R.—E. A. STEAD.

CLASS 189.—12 *Bottles of Cider made in Monmouthshire previous to 1906.* [4 entries.]

I. (£1 10s.)—R. JOHNSON.

II. (£1.)—J. W. DAVIES.

III. (10s.)—A. E. JONES.

R.—MRS. STEAD & SONS.

HONEY.

(The Prizes in Class 190 were given by the Newport Local Committee, and competition was confined to South Wales or Monmouthshire.)

CLASS 190.—2 *Jars of Honey*, 1906 produce. [3 entries.]

I. (£2.)—J. REES.

II. (£1.)—W. H. WILLIAMS.

CHEESE.

CLASS 191.—3 *Cheddar Cheeses (not less than 56 lbs. each)*, made in 1906. [12 entries.]

I. (£15.)—T. C. CANDY.

II. (£10.)—A. WHITE.

III. (£5.)—CARY & PORTCH.

R.—J. SAGE.

V.H.C.—C. CLAXTON.

H.C.—JOSEPH CANDY.

CLASS 192.—3 *Cheddar Cheeses (not over 56lbs. each)*, made in 1906. [8 entries.]

I. (£8.)—JOSEPH CANDY.

II. (£5.)—W. J. SELWAY.

III. (£3.)—F. TUCKER.

R.—J. SAGE.

C.—H. TRAVERS

CLASS 193.—3 *Cheddar Cheeses (not less than 28 lbs. each)*, made in 1906 by a student who had received instruction in any County Council Cheese School or in the Western Counties Cheese School [8 entries.]

I. (£8.)—F. L. ASHBY.

II. (£5.)—MRS. A. F. TEMPLEMAN.

III. (£3.)—MISS E. J. CREES.

R.—MISS SAGE.

H.C.—MISS A. LOUCH.

Prizes awarded for Cheese, Butter and Cream.

lxi

CLASS 194.—3 *Single Gloucester or Wilts Cheeses made in 1907.*
[5 entries.]

I. (26.)—J. SAGE.

II. (24.)—CARY & PORTCH.

R.—E. ROGERS.

H.C.—HISCOCK & Co.

CLASS 195.—8 *Loaf or other Truckle Cheeses, made in 1906.*
[9 entries.]

I. (25.)—JOSEPH CANDY.

II. (23.)—F. W. J. CROCKER.

III. (22.)—C. CLAXTON.

R.—W. J. SELWAY.

V.H.C.—F. L. ASHBY.

CLASS 196.—3 *Caerphilly Cheeses, made in 1907.* [12 entries.]

I. (23.)—E. DIBBLE.

II. (22.)—MRS. H. G. HILL.

III. (21.)—WILTS UNITED DAIRIES.

R.—MISS A. THOMAS.

V.H.C.—MRS. WILLIAMS.

H.C.—W. N. MITCHELL.

(The Prizes in Class 197 were given by the Monmouthshire County Council.)

CLASS 197.—3 *Caerphilly Cheeses, made by a student of the Monmouthshire County Council Dairy or Cheese Schools.* [3 entries.]

II. (22.)—MISS S. PARKER.

CREAM CHEESE, BUTTER AND CREAM.

(These Classes were not open to Professional Teachers.)

CLASS 198.—3 *Cream or other Soft Cheeses.* [11 entries.]

I. (23.)—WENSLEYDALE PURE MILK SOCIETY.

II. (22.)—MRS. MCINTOSH.

III. (21.)—B. READ.

R.—MRS. E. DICKSON PARK.

H.C.—MRS. MCINTOSH.—C. W. WALKER-TISDALE.

CLASS 199.—3 lbs. of *Fresh (or very slightly salted) Butter.*
[30 entries.]

I. (24.)—MRS. A. A. BERE.

I. (24.)—MRS. L. R. MILDON.

II. (23.)—C. E. KEYSER.

II. (23.)—MISS R. WILDE.

III. (22.)—MRS. J. NICKELS.

III. (22.)—MRS. F. WARD.

IV. (21.)—MISS HARRISON.

IV. (21.)—MRS. E. DICKSON PARK.

R.—MRS. G. ADLAM.

H.C.—MISS C. LEWIS.—MRS. MCINTOSH.—MRS. L. PEARCE.—HON. E. W. B. PORTMAN.—LORD ROTHSCHILD.—MISS WATTS.

(The Prizes in Class 200 were given by the Monmouthshire County Council)

CLASS 200.—3 lbs. of *Fresh (or very slightly salted) Butter, made by a Student of the Monmouthshire County Council Butter Schools*
[11 entries.]

I. (22.)—MISS S. PARKER.

II. (21.)—MRS. E. A. STEAD.

III. (10s.)—MISS B. HILL.

R.—MRS. J. SKINNER.

V.H.C.—MRS. W. HARRIS.

H.C.—MISS B. JAMES.

C.—MISS F. S. COX.—MISS M. HAMPSHIRE.

(The Prizes in Class 201 were given by the United Counties Agricultural Society.)

CLASS 201.—3 lbs. of *Fresh (or very slightly salted) Butter, made by a resident in South Wales or Monmouthshire,* [10 entries.]

I. (23.)—MRS. E. LEWIS.

II. (22.)—MISS C. LEWIS.

III. (21.)—MRS. M. A. JONES.

R.—MISS WATTS.

H.C.—MISS M. HAMPSHIRE.—MRS. E. WATTS.

CLASS 202.—3 lbs. of *Fresh (or very slightly salted) Butter, made from scalded cream.* [14 entries.]

I. (24.)—MRS. F. WARD.

II. (23.)—MRS. A. A. BERE.

III. (22.)—MRS. MCINTOSH.

R.—MRS. G. ADLAM.

V.H.C.—A. F. SOMERVILLE.

H.C.—COTSWOLD SANATORIUM.—C. E. KEYSER.—EARL OF MOUNT
EDGCUMBE.—LORD ROTHSCHILD.

CLASS 203.—3 lbs. of *Butter to which no salt whatever had been added,*
judged on the last day of the Show. [16 entries.]

I. (#4.)—MRS. L. R. MILDON.

II. (#3.)—A. F. SOMERVILLE.

III. #2.)—MRS. F. WARD.

IV. (#1.)—MRS. E. WATTS.

R.—MRS. MCINTOSH.

V.H.C.—MISS C. LEWIS.

H.C.—MRS. L. PEARCE.—LORD ROTHSCHILD.

CLASS 204.—12 lbs. of *Salted Butter, in a jar or Crock, delivered to*
the Secretary 4 weeks before the Show. [6 entries.]

I. (#4.)—MRS. E. LEWIS.

II. (#3.)—MRS. J. CHANNON.

III. (#2.)—MRS. G. JENKINS.

R.—B. READ.

CLASS 205.—4 *half-pounds of Scalded Cream.* [10 entries.]

I. (#3.)—EARL OF MOUNT EDGCUMBE.

II. (#2.)—MRS. L. R. MILDON.

III. (#1.)—MISS PHILLIPS.

R.—MRS. A. A. BERE.

COMPETITIONS.

BUTTER-MAKING.

(No winner of a first prize given by this Society for Butter-making during the last three years was eligible to compete in Classes 206 or 209.)

CLASS 206.—*For Dairymaids working for wages in a dairy belonging to a tenant farmer. On the first day of the Show.* [22 entries.]

I. (#4.)—MISS M. F. LAWRENCE.

II. (#3.)—MISS M. P. COMER.

III. (#2.)—MISS F. LEWIS.

IV. (#1.)—MISS B. L. WALKER.

R.—MISS S. EDWARDS.

V.H.C.—MISS I. J. FRANCIS.—MISS MARY MORGAN.

H.C.—MISS E. A. JONES.—MRS. E. A. STEAD.—MISS D. TUCKER.—MISS H. M. WILLIAMS.—MISS S. A. WILLIAMS.

C.—MISS C. EDWARDS.—MISS M. HASEL.—MISS E. PARRY.

(The Prizes in Class 207 were offered by the United Counties Agricultural Society and in 208 by the Newport Local Committee, and competition was confined to residents in South Wales or Monmouthshire.)

CLASS 207.—*For Men and Women. On the second day of the Show.* [17 entries.]

I. (#3.)—MISS F. S. COX.

II. (#2.)—MRS. E. WATTS.

III. (#1.)—MRS. W. WATTS.

R.—MISS J. JONES.

V.H.C.—MISS D. M. DAVIES.—MISS B. GRIFFITHS.—MISS J. JAMES.—MISS H. M. WILLIAMS.

H.C.—MISS E. DAVID.—MISS M. A. GRIFFITHS.—MISS H. WILLIAMS.

CLASS 208.—*For Men and Women. On the third day of the Show.* [22 entries.]

I. (#4.)—MISS J. JONES.

II. (#3.)—MISS M. JAMES.

III. (#2.)—MRS. W. WATTS.

IV. (#1.)—MISS B. A. S. HARRY.

R.—MISS M. A. GRIFFITHS.

V.H.C.—MISS E. DAVID.—MISS D. M. DAVIES.—MISS M. EDWARDS.—MISS S. EDWARDS.—MISS B. GRIFFITHS.—MISS G. HOPKIN.

H.C.—MISS J. JAMES.—MISS M. REES.—MRS. E. WATTS.—MISS G. WATTS.—MISS S. A. WILLIAMS.

CLASS 209.—*For Men and Women. On the fourth day of the Show.*
[35 entries.]

I. (#4.)—Miss A. GERRARD.

II. (#3.)—Miss J. JAMES.

III. (#2.)—Miss E. DUNN.

IV. (#1.)—Miss G. FRANCIS.

R.—Miss B. A. S. BARRY.

V.H.C.—Miss M. P. COMER.—Miss W. E. DUNN.—Miss M. A. GRIFFITHS.—Miss E. G. HAVARD.—Miss M. JAMES.—Miss M. JENKINS.—Miss ALICE JONES.—Miss S. PARKER.—Miss A. PLANK.—Miss E. RILEY.—A. ROBERTS.—Miss P. TAYLOR.—Miss H. M. TRENCHARD.—Miss B. L. WALKER.—Mrs. W. WATTS.—Miss H. M. WILLIAMS.

H.C.—Miss E. DAVID.—Miss B. GRIFFITHS.—Miss N. MORGAN.—Miss D. TUCKER.

C.—Miss E. BUCKLEY.—Miss I. J. FRANCIS.—Miss M. F. LAWRENCE.—Miss MAUD MEREDITH.—Miss MARIANNE MEREDITH.—Miss H. TAYLOR.—Miss P. WATKINS.—Miss H. WILLIAMS.

(The Prizes in Classes 210 to 214 were given by the Monmouthshire County Council and were open only to Students who had attended the Monmouthshire County Council Dairy or Cheese Schools.)

CLASS 210.—*On the first day of the Show.* [18 entries.]

I. (#2.)—Miss F. S. COX.

II. (#1 10s.)—Miss R. JAMES.

III. (#1.)—Miss S. EDWARDS.

IV. (10s.)—Mrs. E. A. STEAD.

R.—Miss F. TUCKER.

V.H.C.—Miss E. WATKINS.—Miss S. A. WILLIAMS.

H.C.—Miss H. L. BAKER.—Miss E. COX.—Miss L. ELLAWAY.—Miss E. PARRY.—Miss B. WATKINS.—Miss E. M. WILLIAMS.

CLASS 211.—*On the second day of the Show.* [25 entries.]

I. (#2.)—Miss E. A. JONES.

II. (#1 10s.)—Miss H. L. BAKER.

III. (#1.)—Miss E. M. WILLIAMS.

IV. (10s.)—Miss E. PARRY.

R.—Miss S. PARKER.

V.H.C.—Miss M. N. LUCAS.—Miss MARY MORGAN.—Miss F. G. PRICE.—Miss S. A. WILLIAMS.

H.C.—Miss E. COX.—Miss M. DAVIS.—Miss E. JAMES.—Miss R. JAMES.—Miss D. I. PRICE.—Mrs. E. A. STEAD.

CLASS 212.—*On the third day of the Show.* [18 entries.]

I. (£2.)—MISS L. W. STEAD.

II. (£1 10s.)—MRS. E. A. STEAD.

III. (£1.)—MISS F. G. PRICE.

IV. (10s.)—MISS R. JAMES.

R.—MISS D. I. PRICE.

V.H.C.—MISS M. DAVIS.—MISS E. PARRY.—MISS S. A. WILLIAMS.

H.C.—MISS H. L. BAKER.—MISS B. WATKINS.

CLASS 213.—*On the fourth day of the Show.* [21 entries.]

I. (£2.)—MISS E. PARRY.

II. (£1 10s.)—MISS M. JAMES.

III. (£1.)—MISS MARY MORGAN.

IV. (10s.)—MISS R. JAMES.

R.—MISS S. EDWARDS.

V.H.C.—MISS M. DAVIS.—MISS D. I. PRICE.—MISS F. G. PRICE.—MISS E. M. WILLIAMS.—MISS N. WILLIAMS.

H.C.—MISS F. LEWIS.—MISS M. N. LUCAS.

CLASS 214.—*On the fifth day of the Show—For Students under 17 years of age.* [13 entries.]

I. (£2.)—MISS MARY MORGAN.

II. (£1 10s.)—MISS N. V. WILLIAMS.

III. (£1.)—MISS K. REES.

IV. (10s.)—MISS A. MORGAN.

R.—MISS B. JAMES.

V.H.C.—MISS F. TUCKER.—MISS E. WATKINS.

H.C.—MISS D. I. PRICE.

CHAMPION CLASS.

CLASS 215.—*For Winners of first and second prizes in the Butter-making Classes 206 to 214, or at any previous meeting of the Society. On the fifth day of the Show.*

I. (Gold Medal)—MISS M. JAMES.

II. (Silver Medal)—MRS. N. COMER.

III. (Bronze Medal)—MISS R. JAMES.

R.—MISS M. COMER.

V.H.C.—MISS M. CAMBRAY.—MISS F. S. COX.—MISS S. EDWARDS.—MISS J. JAMES.—A. ROBERTS.—MISS B. L. WALKER.—MRS. E. WATTS.—MISS M. MORGAN.—MISS M. LAWRENCE.—MISS H. L. BAKER.—MISS L. STEAD.—MISS J. JONES.—MISS E. A. JONES.—MISS E. PARRY.—MISS A. GERRARD.

MILKING.

CLASS 216.—*For Men 18 years of age and over.* [14 entries.]

- I. (£1 10s.)**—T. P. JONES.
- II. (£1.)**—T. LITTLE.
- III. (15s.)**—G. ALLEN.
- IV. (10s.)**—R. MORGAN.
- H.C.**—J. FRICKER, jun.—A. LEWIS.—J. PRICE.
- C.**—F. G. HAMPSHIRE.—A. HOLMES.

CLASS 217.—*For Women 18 years of age and over.* [13 entries.]

- I. (£1 10s.)**—MISS M. JAMES.
- II. (£1.)**—MRS. E. LEWIS.
- III. (15s.)**—MISS R. JAMES.
- IV. (10s.)**—MISS E. MERRETT.

CLASS 218.—*For Boys and Girls under 18 years of age.* [8 entries.]

- I. (£1 10s.)**—MISS MARY MORGAN.
 - II. (£1.)**—B. WARD.
 - III. (15s.)**—MISS C. EDWARDS.
 - IV. (10s.)**—MISS E. M. EDWARDS
 - R.**—W. MERRETT.
 - V.H.C.**—G. HEMMING.
 - H.C.**—P. MERRETT.
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SHOEING.

(The Prizes in Classes 220, 222 and 224 were given by the Monmouthshire County Council, and were open only to Students who had attended the Classes of the Monmouthshire County Council.)

The Registration Committee of the Farriers' Company admitted Winners of First Prizes in the Society's Competitions to the Official Register *free of charge*, on their satisfying the Judges that they had a fair knowledge of the structure of the horse's foot, and on the necessary application being made to the Company in the prescribed form; and other Competitors who satisfied the Judges of their competency, on payment of the usual fees.

CLASS 219.—*For Nag Horse Shoeing, by Smiths over 25 years of age who had not previously won the first prize in a corresponding class at one of the Society's meetings, or a Champion Prize at any other Society's Show, on the third day of Show, [29 entries.]*

I. (£4.)—D. JONES, R.S.S. (Nantgaredig).

II. (£3.)—J. C. MORRIS, R.S.S.

III. (£2.)—R. DAVIES.

IV. (£1.)—H. T. HOLMAN, R.S.S.

R.—G. ROGERS, R.S.S.

H.C.—G. DEIGHTON, R.S.S.—H. EVANS.—H. J. HANNEY.—W. J. WATTS.

CLASS 220.—*For Nag Horse Shoeing, by Smiths over 25 years of age ditto (Students' Class), on the third day of Show. [8 entries.]*

I. (£2.)—J. C. MORRIS, R.S.S.

II. (£1 10s.)—H. JONES, R.S.S.

III. (£1.)—H. J. HANNEY.

IV. (10s.)—F. THOMAS.

R.—R. JONES, R.S.S.

CLASS 221.—*For Cart Horse Shoeing, by Smiths over 25 years of age who had not previously won the first prize in a corresponding class at one of the Society's meetings, or a Champion Prize at any other Society's Show, on the fourth day of Show. [40 entries.]*

I. (£4.)—D. JONES, R.S.S. (Nantgaredig).

II. (£3.)—J. PUGSLEY, jun.

III. (£2.)—J. C. MORRIS, R.S.S.

IV. (£1.)—J. J. WILLIAMS, R.S.S.

R. & V.H.C.—G. ROGERS, R.S.S.

V.H.C.—B. DAVIES, R.S.S.—D. DAVIES (Mountain Ash).—R. JONES, R.S.S.

H.C.—R. DAVIES.—W. DENNER.—H. T. HOLMAN, R.S.S.—H. JONES, R.S.S.—F. THOMAS.—E. J. WHITEHORN, R.S.S.

CLASS 222.—*For Cart Horse Shoeing, by Smiths over 25 years of age ditto (Students' Class), on the fourth day of Show. [13 entries.]*

- I. (£2.)—J. C. MORRIS, R.S.S.
- II. (£1 10s.)—H. J. HANNEY.
- III. (£1.)—E. J. WHITEHORN, R.S.S.
- IV. (10s.)—R. JONES, R.S.S.
- R. & V.H.C.—S. L. YERRELL.
- H.C.—H. JONES, R.S.S.

CLASS 223.—*For Nag Horse Shoeing, by Smiths not over 25 years of age (Competitors in this Class were required to declare their age at the time of entry), on the fifth day of Show. [15 entries.]*

- I. (£4.)—I. REES.
- II. (£3.)—D. T. JAMES.
- III. (£1.)—A. W. JONES.
- IV. (10s.)—WILLIE MORGAN.
- R. & V.H.C.—J. RICHARDS.
- H.C.—D. EVANS.—J. H. HOLMES.
- C.—D. L. DAVIES.—N. U. WHITE.

CLASS 224.—*For Nag Horse Shoeing (Students' Class) for Smiths not over 19 years of age (Competitors in this Class were required to declare their age at the time of entry), on the fifth day of Show. [2 entries.]*

- I. (£2.)—T. SIMMONDS.
- II. (£1 10s.)—W. FARR.

CLASS 225.—*For Shoe Making or Turning, the patterns and descriptions of the Shoes being supplied by the Judge, on the fifth day of Show. [12 entries.]*

- I. (£4.)—T. DRING, R.S.S.
 - II. (£3.)—J. C. MORRIS, R.S.S.
 - III. (£2.)—H. J. HANNEY.
 - IV. (£1.)—F. R. WHITEHORN.
 - R. & V.H.C.—H. MORGAN.
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LXX Prizes awarded for Timbering and Splicing and Ambulance.

TIMBERING AND SPLICING.

(The Prizes in Classes 226 to 228 were given by the Newport Local Committee, and competition for them was confined to South Wales or Monmouthshire.)

CLASS 226.—*Timbering Competition, open to Colliers only, on the fourth day of Show.* [2 entries.]

I. (£3.)—W. THAYER.

II. (£2.)—R. EVANS.

CLASS 227.—*Timbering Competition, open to timbermen only, on the fourth day of Show.* [5 entries.]

I. (£3.)—E. MITCHELL.

II. (£2.)—T. MEREDITH.

III. (£1.)—G. NASH.

R.—T. CHALLENGER.

CLASS 228.—*Colliery Rope Splicing, on the fourth day of Show.*
[5 entries.]

I. (£3.)—D. THOMAS.

II. (£2.)—T. LLEWELLYN.

III. (£1.)—R. REES.

R.—R. JONES.

AMBULANCE.

(The First Prize in Class 229 was given by W. P. James, Esq., J.P., Abersychan, Mon., and the second and third prizes by the Newport Local Committee.

(A Special Prize of a Gold Medal was given by Mr. Councillor L. S. Abrahamson, to the captain of the winning team.)

CLASS 229.—*Best exhibition of Ambulance Work, on the fourth day of Show.* [10 entries.]

I. (£7.)—A. J. ENGLAND.

II. (£5.)—D. EVANS.

III (£3.)—G. H. Osborne.

POULTRY.

CLASS 1.—ANY DISTINCT BREED—COCK AND FOUR HENS, BRED
IN 1905 OR 1906 (THE PROPERTY OF ONE EXHIBITOR). [12 entries.]

- I. (25.)—H. REEVES, *Dorkings*.
- II. (23.)—S. J. SOUTHON, *Brahmas*.
- III. (22.)—A. F. WOOTTEN, *Black Sumatra Game*.
- R.—DR. J. P. CARTWRIGHT, *Plymouth Rocks*.
- V.H.C.—F. SMITH, *Brown Red Game*.
- H.C.—A. BULLOCK, *White Wyandottes*.
- C.—F. NORMAN, *Minorcas*.

CLASS 2.—COCHIN, COCK. [5 entries.]

- I. (21.)—CORNISH BROS.
- II. (15s.)—J. B. GILBERT.
- R.—J. B. GILBERT.
- V.H.C.—R. J. C. LINGWOOD.
- H.C.—G. DANDO.

CLASS 3.—COCHIN, HEN. [3 entries.]

- I. (21.)—CORNISH BROS.
- II. (15s.)—J. B. GILBERT.
- R.—G. DANDO.

CLASS 4.—BRAHMA, COCK. [6 entries.]

- I. (21.)—S. W. THOMAS.
- II. (15s.)—R. J. C. LINGWOOD.
- III. (10s.)—E. G. BEVAN.
- R.—S. J. SOUTHON.
- H.C.—H. SPENSLEY.

CLASS 5.—BRAHMA, HEN. [5 entries.]

- I. (21.)—S. W. THOMAS.
- II. (15s.)—H. SPENSLEY.
- R.—S. J. SOUTHON.

CLASS 6.—LANGSHAN, COCK. [6 entries.]

I. (£1.)—H. WALLIS.

II. (15s.)—W. A. JUKES.

III. (10s.)—MISS I. VERREY.

R.—F. HARGREAVES.

CLASS 7.—LANGSHAN, HEN. [4 entries.]

I. (£1.)—H. WALLIS.

II. (15s.)—W. A. JUKES.

R.—MRS. CARY.

H.C.—F. C. GRIFFIN.

CLASS 8.—PLYMOUTH ROCK, COCK. [7 entries.]

I. (£1.)—J. VINES.

II. (15s.)—H. EDMUNDS.

III. (10s.)—J. BATEMAN.

R.—W. REES.

H.C.—H. SPENSLEY.

C.—J. EDWARDS.

CLASS 9.—PLYMOUTH ROCK, HEN. [2 entries.]

I. (£1.)—J. BATEMAN.

R.—T. W. FRANCIS.

CLASS 10.—WYANDOTTE (SILVER OR GOLD LACED), COCK. [8 entries.]

I. (£1.)—A. O. GILBERT.

II. (15s.)—P. PERCIVAL.

III. (10s.)—W. WATRINS.

R.—T. H. FURNESS.

V.H.C.—H. PICKLES.

H.C.—E. J. JARRETT.

C.—T. C. PINNIGER.

CLASS 11.—WYANDOTTE (SILVER OR GOLD LACED), HEN. [6 entries.]

I. (£1.)—H. PICKLES.

II. (15s.)—T. C. PINNIGER.

III. (10s.)—W. H. HUNT.

R.—H. SPENSLEY.

V.H.C.—T. H. FURNESS.

H.C.—W. YOXALL.

CLASS 12.—WYANDOTTE (WHITE), COCK. [9 entries.]

- I. (£1.)—H. BONNY.**
- II. (15s.)—FIRTH BROS.**
- III. (10s.)—F. HARGREAVES.**
- R.—REV. J. DAVIES.**
- H.C.—A. BULLOCK.**

CLASS 13.—WYANDOTTE (WHITE), HEN. [10 entries.]

- I. (£1.)—H. BONNY.**
- II. (15s.)—H. SPENSLEY.**
- III. (10s.)—MISS N. EDWARDS.**
- R.—G. BETTS.**
- V.H.C.—DR. J. P. CARTWRIGHT.**
- H.C.—W. J. ROSSER.**
- C.—A. BULLOCK.**

CLASS 14.—WYANDOTTE (ANY OTHER VARIETY), COCK. [8 entries.]

- I. (£1.)—F. HARGREAVES.**
- II. (15s.)—FIRTH BROS.**
- III. (10s.)—F. C. CONSTABLE.**
- R.—G. F. C. PYPER.**
- V.H.C.—H. BONNY.**
- C.—D. THOMAS.**

CLASS 15.—WYANDOTTE (ANY OTHER VARIETY), HEN. [6 entries.]

- I. (£1.)—H. BONNY.**
- II. (15s.)—J. MILLINGTON.**
- III. (10s.)—M. KINGSCOTE.**
- R.—W. S. and R. E. BAILY.**
- H.C.—H. GUNN.**
- C.—D. THOMAS.**

CLASS 16.—ORPINGTON (BUFF), COCK. [10 entries.]

- I. (£1.)—LADY A. STANLEY.**
- II. (15s.)—W. M. BELL.**
- III. (10s.)—W. H. COOK.**
- R.—MRS. M. MOORE.**
- V.H.C.—A. O. GILBERT.**
- H.C.—G. PONTING.**

CLASS 17.—ORPINGTON (BUFF), HEN. [3 entries.]

I. (£1.)—A. O. GILBERT.

II. (15s.)—W. H. Cook.

R.—MRS. E. EDWARDS.

CLASS 18.—ORPINGTON (ANY OTHER VARIETY), COCK. [12 entries.]

I. (£1.)—W. M. BELL.

II. (15s.)—F. HARGREAVES.

III. (10s.)—W. H. CORNISH.

R.—W. H. Cook.

V.H.C.—W. A. JUKES.

H.C.—T. FAWKES.

C.—F. W. DEAN.

CLASS 19.—ORPINGTON (ANY OTHER VARIETY), HEN. [12 entries.]

I. (£1.)—W. M. BELL.

II. (15s.)—W. A. JUKES.

III. (10s.)—W. H. COOK.

R.—W. H. CORNISH.

V.H.C.—F. A. PALMER.

H.C.—D. THOMAS.

C.—T. BARRETT.

CLASS 20.—MINORCA, COCK. [6 entries.]

I. (£1.)—A. G. PITTS.

II. (15s.)—A. G. PITTS.

III. (10s.)—FURSLAND BROS.

R.—D. THOMAS.

H.C.—W. SNELL.

CLASS 21.—MINORCA, HEN. [15 entries.]

I. (£1.)—A. G. PITTS.

II. (15s.)—FURSLAND BROS.

III. (10s.)—T. C. JONES.

R.—A. G. PITTS.

V.H.C.—T. C. JONES.

H.C.—T. EVANS.

C.—FURSLAND BROS.

Prizes awarded for Poultry.

lxxv

CLASS 22.—LEGHORN (WHITE), COCK. [6 entries.]

- I. (£1.)—H. SPENSLEY.
- II. (15s.)—H. EVERED.
- III. (10s.)—STANBURY BROS.
- R.—D. GRIFFITHS.
- H.C.—E. PENNINGTON.

CLASS 23.—LEGHORN (WHITE), HEN. [7 entries.]

- I. (£1.)—W. H. COOK.
- II. (15s.)—J. PRIDE.
- III. (10s.)—D. GRIFFITHS.
- R.—H. EVERED.
- V.H.C.—H. B. GWYTHYER.
- H.C.—E. PENNINGTON.

CLASS 24.—LEGHORN (ANY OTHER VARIETY), COCK. [6 entries.]

- I. (£1.)—STANBURY BROS.
- II. (15s.)—D. THOMAS.
- III. (10s.)—J. EDWARDS.
- R.—GILLING BROS.
- H.C.—D. THOMAS.

CLASS 25.—LEGHORN (ANY OTHER VARIETY), HEN. [4 entries.]

- I. (£1.)—F. G. EDWARDS.
- II. (15s.)—G. H. BRAY.
- R.—W. REES.

CLASS 26.—ANCONA, COCK. [3 entries.]

- I. (£1.)—EVANS BROS.
- II. (15s.)—EVANS BROS.
- R.—J. H. ADAMS.

CLASS 27.—ANCONA, HEN. [3 entries.]

- I. (£1.)—H. MORRIS.
- II. (15s.)—A. H. SHARREM.
- R.—EVANS BROS.

CLASS 28.—HAMBURG, COCK. [5 entries.]

I. (£1.)—W. M. DAVIES.

II. (15s.)—H. PICKLES.

R.—MASON & EDWARDS.

H.C.—W. SNELL.

CLASS 29.—HAMBURG, HEN. [8 entries.]

I. (£1.)—D. W. LEWIS.

II. (15s.)—W. H. AVERY.

III. (10s.)—D. GEORGE.

R.—MASON & EDWARDS.

V.H.C.—ALLEN & HOWELL.

H.C.—H. PICKLES.

C.—W. SNELL.

C.—W. SNELL.

CLASS 30.—SUSSEX, COCK. [7 entries.]

I. (£1.)—W. H. COOK.

II. (15s.)—W. S. TUCKER.

III. (10s.)—J. HEPBURN.

R.—LORD ROTHSCHILD.

V.H.C.—T. DEAN.

H.C.—LORD ROTHSCHILD.

CLASS 31.—SUSSEX, HEN. [7 entries.]

I. (£1.)—W. H. COOK.

II. (15s.)—LORD ROTHSCHILD.

III. (10s.)—W. S. TUCKER.

R.—J. HEPBURN.

V.H.C.—LORD ROTHSCHILD.

H.C.—W. S. TUCKER.

C.—MRS. F. HERBERT.

CLASS 32.—DORKING (COLOURED), COCK. [9 entries.]

I. (£1.)—H. REEVES.

II. (15s.)—J. HARRIS.

III. (10s.)—J. HARRIS.

R.—A. C. MAJOR.

V.H.C.—H. J. CLATWORTHY.

H.C.—C. FORD.

C.—H. REEVES ; and W. WEBBER.

CLASS 33.—DORKING (COLOURED), HEN. [7 entries.]

- I. (£1.)—J. LLOYD.
- II. (15s.)—H. REEVES.
- III. (10s.)—A. C. MAJOR.
- R.—LADY A. STANLEY.
- V.H.C.—J. HARRIS.
- H.C.—F. A. PALMER.

CLASS 34.—DORKING (SILVER GREY), COCK. [4 entries.]

- I. (£1.)—H. REEVES.
- II. (15s.)—LADY A. STANLEY.
- R.—H. REEVES.
- V.H.C.—A. C. MAJOR.

CLASS 35.—DORKING (SILVER GREY), HEN. [4 entries.]

- I. (£1.)—A. C. MAJOR.
- II. (15s.)—LADY A. STANLEY.
- R.—H. REEVES.
- V.H.C.—H. REEVES.

CLASS 36.—DORKING (ANY OTHER VARIETY), COCK. [2 entries.]

- I. (£1.)—A. C. MAJOR.
- R.—A. C. MAJOR.

CLASS 37.—DORKING (ANY OTHER VARIETY), HEN. [2 entries.]

- I. (£1.)—A. C. MAJOR.
- R.—A. C. MAJOR.

CLASS 38.—OLD ENGLISH GAME, COCK. [10 entries.]

- I. (£1.)—W. H. LEWIS.
- II. (15s.)—LADY A. STANLEY.
- III. (10s.)—J. PRIOR.
- R.—W. S. FLETCHER.
- V.H.C.—J. H. MATHIAS.
- H.C.—J. C. HUXTABLE.
- C.—P. PENDRY.

CLASS 39.—OLD ENGLISH GAME, HEN. [6 entries.]

- I. (£1.)**—T. W. MORGAN.
- II. (15s.)**—W. D. EDMUNDS.
- III. (10s.)**—J. C. HUXTABLE.
- R.**—W. S. FLETCHER.
- V.H.C.**—P. PENDRY.

CLASS 40.—INDIAN GAME, COCK. [9 entries.]

- I. (£1.)**—FIRTH BROS.
- II. (15s.)**—JAS. FRAYNE & SONS.
- III. (10s.)**—W. BRENT.
- R.**—G. SPEAR, jun.
- V.H.C.**—DILLON & TAMMADGE.
- H.C.**—MISSES ASHMALL & COOPER.
- C.**—W. JEFFERIES.

CLASS 41.—INDIAN GAME, HEN. [7 entries.]

- I. (£1.)**—JAS. FRAYNE & SONS.
- II. (15s.)**—FIRTH BROS.
- III. (10s.)**—W. BRENT.
- R.**—J. C. HUXTABLE.
- V.H.C.**—H. JACKSON.
- H.C.**—H. PLUMMER.
- C.**—E. McINDO.

CLASS 42.—MALAY, COCK. [8 entries.]

- I. (£1.)**—JOHN FRAYN.
- II. (15s.)**—W. BRENT.
- III. (10s.)**—J. RIDGE.
- R.**—F. W. FOREY.
- V.H.C.**—G. C. DENNIS.
- H.C.**—G. C. DENNIS.
- C.**—J. C. HUXTABLE.

CLASS 43.—MALAY, HEN. [5 entries.]

- I. (£1.)**—G. C. DENNIS.
- II. (15s.)**—F. W. FOREY.
- R.**—J. C. HUXTABLE.
- V.H.C.**—G. C. DENNIS.
- H.C.**—R. J. C. LINGWOOD.

Prizes awarded for Poultry.

lxxix

CLASS 44.—FAVEROLLES, COCK. [7 entries.]

- I. (21.)—C. H. BRADLEY.
- II. (15s.)—F. HARGREAVES.
- III. (10s.)—G. BETTS.
- R.—LADY E. COTTERELL.
- V.H.C.—MUMBLES POULTRY FARM.
- H.C.—LADY E. COTTERELL.

CLASS 45.—FAVEROLLES, HEN. [7 entries.]

- I. (21.)—C. H. BRADLEY.
- II. (15s.)—G. BETTS.
- III. (10s.)—LADY E. COTTERELL.
- R.—C. H. BRADLEY.
- V.H.C.—LADY E. COTTERELL.
- H.C.—F. HARGREAVES.
- C.—MRS. F. HERBERT.

CLASS 46.—FRENCH (EXCLUDING FAVEROLLES), COCK. [3 entries.]

- I. (21.)—S. W. THOMAS, *Creve Cœur*.
- II. (15s.)—S. W. THOMAS, *Creve Cœur*.

CLASS 47.—FRENCH (EXCLUDING FAVEROLLES), HEN. [3 entries.]

- I. (21.)—S. W. THOMAS, *Houdan*.
- II. (15s.)—S. W. THOMAS, *Creve Cœur*.
- R.—MRS. F. HERBERT, *Coucon de Maline*.

CLASS 48.—ANY OTHER DISTINCT BREED (NOT PREVIOUSLY MENTIONED),
COCK. [9 entries.]

- I. (21.)—EVANS BROS., *Silver Polish*.
- II. (15s.)—MISS G. S. L. WILSON, *Yokohama*.
- III. (10s.)—F. W. FOREY, *Game*.
- R.—REV. C. T. SALUSBURY, *Andalusian*.
- V.H.C.—G. JONES, *Old English Game*.
- H.C.—W. H. SNELL, *Game*.
- C.—J. H. ADAMS, *Pekin Bantam*.

CLASS 49.—ANY OTHER DISTINCT BREED (NOT PREVIOUSLY MENTIONED)
HEN. [5 entries.]

- I. (21.)—G. N. WADE, *Brown Red Game*.
- II. (15s.)—REV. C. T. SALUSBURY, *Andalusian*.
- R.—J. C. HUXTABLE, *Game*.

(In Classes 50 to 59 the birds must have been hatched after December 31, 1906, and must not have moulted all the chicken flight feathers of the wing.

CLASS 50.—COCHIN, BRAHMA, LANGSHAN, PLYMOUTH ROCK, WYANDOTTE, OR ORPINGTON, COCKEREL. [11 entries.]

I. (£1.)—A. O. GILBERT, *Orpington*, January 5.

II. (15s.)—W. H. COOK, *Orpington*, January 6.

III. (10s.)—W. M. BELL, *Orpington*, January 7.

R.—T. H. FURNESS.

V.H.C.—MISS N. EDWARDS.

H.C.—A. BULLOCK, *White Wyandotte*, January 7.

C.—R. J. C. LINGWOOD, January 4.

CLASS 51.—COCHIN, BRAHMA, LANGSHAN, PLYMOUTH ROCK, WYANDOTTE, OR ORPINGTON, PULLET. [11 entries.]

I. (£1.)—LADY A. STANLEY, *Orpington*.

II. (15s.)—A. BULLOCK, *White Wyandotte*, January 7.

III. (10s.)—T. H. FURNESS.

R.—W. M. BELL, *Orpington*, January 14.

V.H.C.—W. H. COOK, *Orpington*, January 3.

H.C.—MISS N. EDWARDS.

C.—A. O. GILBERT, *Orpington*, January 24.

CLASS 52.—MINORCA, LEGHORN, ANCONA, HAMBURG, FAVEROLLES, OR FRENCH, COCKEREL. [4 entries.]

I. (£1.)—GILLING BROS., *Leghorn*, February 1.

R.—PICKERING BROS., *Houdan*, February 15.

CLASS 53.—MINORCA, LEGHORN, ANCONA, HAMBURG, FAVEROLLES, OR FRENCH, PULLET. [2 entries.]

I. (£1.)—LADY E. COTTERELL, *Salmon Faverolle*, February 12.

R.—GILLING BROS., *Leghorn*, February 16.

CLASS 54.—SUSSEX, DORKING, GAME, MALAY, OR ANY OTHER DISTINCT BREED (NOT PREVIOUSLY MENTIONED), COCKEREL. [7 entries.]

I. (£1.)—H. REEVES, *Dorking*, January 2.

II. (15s.)—W. BRENT, *Indian Game*, January.

III. (10s.)—H. REEVES, *Dorking*, January 2.

R.—JAS. FRAYNE & SONS, *Indian Game*, January 2.

V.H.C.—W. J. CAMP, *Indian Game*, January 3.

H.C.—J. R. R. MITCHELL, *Indian Game*, January 5.

C.—W. H. SNELL, *Modern Game*, January 2.

CLASS 55.—SUSSEX, DORKING, GAME, MALAY, OR ANY OTHER
DISTINCT BREED (NOT PREVIOUSLY MENTIONED), PULLET.

[6 entries.]

- I. (£1.)—H. REEVES, *Dorking*, January 2.
- II. (15s.)—W. BRENT, *Indian Game*, January.
- III. (10s.)—W. J. CAMP, *Indian Game*, January 3.
- R.—JAS. FRAYNE & SONS, *Indian Game*, January 2.
- V.H.C.—H. REEVES, *Dorking*, January 2.
- H.C.—J. R. R. MITCHELL, *Indian Game*, January 5.
- C.—W. WEBBER, *Dorking*, February 1.

LIVE TABLE POULTRY.

CLASS 56.—PAIR OF COCKERELS OF ANY PURE BREED.

[5 entries.]

- I. (£1.)—H. J. CLATWORTHY, *Dark Dorkings*, January 3.
- II. (15s.)—H. R. HOWMAN, *Buff Orpington*.
- R.—MRS. BRUCE WARD, *White Orpingtons*, February 3.
- V.H.C.—H. REEVES, *Dorkings*, January 2.
- H.C.—H. REEVES, *Dorkings*, January 2.

CLASS 57.—PAIR OF PULLETS OF ANY PURE BREED. [5 entries.]

- I. (£1.)—H. REEVES, *Dorkings*.
- II. (15s.)—H. R. HOWMAN, *Buff Orpington*.
- R.—H. J. CLATWORTHY, *Dark Dorkings*, January 6.
- V.H.C.—H. REEVES, *Dorkings*.
- H.C.—MRS. BRUCE WARD, *Buff Orpingtons*, February 3.

CLASS 58.—PAIR OF CROSS-BRED COCKERELS. [4 entries.]

- I. (£1.)—MRS. BRUCE WARD, *Dorking-Orpington*, January 2.
- II. (15s.)—H. R. HOWMAN, *Faverolles-Wyandotte*, January.
- R.—W. BETTS & SON, *Buff Orpington-Sussex*, February 2.

CLASS 59.—PAIR OF CROSS-BRED PULLETS. [4 entries.]

- I. (£1.)—W. G. HICKS, *Indian Game-Dorking*, January 2.
- II. (15s.)—MRS. BRUCE WARD, *Indian Game-Orpington*, February 3.
- R.—W. HAMBLY, *Indian Game-Dorking*, January 2.
- V.H.C.—H. R. HOWMAN, *Faverolles-Wyandotte*.

SELLING CLASSES.

CLASS 60.—ANY DISTINCT BREED, COCK (PRICE NOT TO EXCEED £1 1s.
[14 entries.]

I. (£1.)—S. W. THOMAS, *Brahma*.

II. (15s.)—A. BULLOCK, *White Wyandotte*.

III. (10s.)—C. FORD, *Coloured Dorking*.

R.—MRS. E. EDWARDS, *Buff Orpington*.

V.H.C.—DILLON & TAMMADGE, *Indian Game*; and J. T. HUNT, *Orpington*.

H.C.—A. M. HILL, *Orpington*; J. R. R. MITCHELL, *Dorking*; and H. REEVES, *Dorking*.

C.—LADY A. STANLEY, *Dorking*.

CLASS 61.—ANY DISTINCT BREED, HEN (PRICE NOT TO EXCEED £1 1s.
[15 entries.]

I. (£1.)—J. HARRIS, *Dorking*.

II. (15s.)—LADY A. STANLEY, *Dorking*.

III. (10s.)—A. BULLOCK, *White Wyandotte*.

R.—F. W. FOREY.

V.H.C.—W. J. CAMP, *Indian Game*.

H.C.—J. R. R. MITCHELL, *Indian Game*.

C.—HUMPHREYS & SMITH, *Plymouth Rock*.

DUCKS, GEESE AND TURKEYS.

CLASS 62.—DRAKE OR DUCK (AYLESBURY). [4 entries.]

I. (£1.)—F. READ.

II. (15s.)—E. PENNINGTON.

R.—R. SHIPLEY.

CLASS 63.—DRAKE OR DUCK (ROUEN). [1 entry.]

I. (£1.)—W. G. WATSON.

CLASS 64.—DRAKE OR DUCK (PEKIN). [5 entries.]

I. (£1.)—R. SHIPLEY.

II. (15s.)—MRS. M. MOORE.

R.—P. PERCIVAL.

V.H.C.—R. SHIPLEY.

H.C.—MRS. M. MOORE.

CLASS 65.—GANDER OR GOOSE. [7 entries.]

I. (£1.)—R. F. FORESTIER-WALKER.

II. (15s.)—W. WOODS.

III. (10s.)—P. LEWIS.

R.—P. LEWIS.

V.H.C.—R. F. FORESTIER-WALKER.

H.C.—W. F. SNELL.

C.—J. F. EVANS.

CLASS 66.—TURKEY, COCK OR HEN. [5 entries.]

I. (£1.)—W. F. SNELL.

II. (15s.)—S. SPINKE.

R.—LORD ROTHSCHILD.

V.H.C.—W. F. SNELL.

H.C.—LORD ROTHSCHILD.

DEAD TABLE POULTRY.

(Forwarded alive, and killed and plucked by a Poulterer acting for the Society.)

In Classes 67 to 71 the birds must have been hatched after December 31, 1906, and must not have moulted all the chicken flight feathers of the wing.)

CLASS 67.—PAIR OF COCKERELS OF ANY PURE BREED.
[3 entries.]

I. (£1.)—H. R. HOWMAN, *Faverolles*.

II. (15s.)—MRS. BRUCE WARD, *Orpingtons*, January 2.

R.—H. REEVES, *Dorkings*, January 2.

CLASS 68.—PAIR OF PULLETS OF ANY PURE BREED.
[4 entries.]

I. (£1.)—H. R. HOWMAN, *Faverolles*.

II. (15s.)—H. REEVES, *Dorkings*, January 2.

R.—H. REEVES, *Dorkings*, January 2.

CLASS 69.—PAIR OF CROSS-BRED COCKERELS. [2 entries.]

I. (£1.)—MRS. BRUCE WARD, *Indian Game-Dorking*, January 2.

R.—H. R. HOWMAN, *Faverolles-Wyandotte*.

CLASS 70.—PAIR OF CROSS-BRED PULLETS. [3 entries.]

I. (£1.)—J. R. R. MITCHELL, *Indian Game-Dorking*.

II. (15s.)—H. R. HOWMAN, *Faverolles-Wyandotte*.

R.—MRS. BRUCE WARD, *Dorking-Orpington*, January 2.

CLASS 71.—PAIR OF DUCKLINGS. [3 entries.]

I. (£1.)—F. READ, March 30.

II. (15s.)—F. READ, March 30.

Bath and West and Southern Counties Society.

OBJECTS OF THE SOCIETY AND PRIVILEGES OF MEMBERSHIP.

ANNUAL EXHIBITIONS.

THE Society annually holds an Exhibition in some city or town in England or Wales. Each section of the Society's district is visited at intervals, so that most Members have an opportunity of seeing the Show in their own neighbourhood every few years. Prizes to a large amount are given for Horses, Cattle, Sheep, Pigs, Farm Produce, &c. Provision is also made for the exhibition of Agricultural Implements and Machinery, Seeds, Cattle Foods, Artificial Manures, and articles of general utility. A substantially built and completely equipped Working-Dairy on a large scale is a special feature of these Exhibitions. Here explanatory demonstrations, and comparative tests of implements and processes are carried on with the assistance of well-known practical and scientific experts, and Butter-making Competitions are held. Among other features of the Annual Meeting are Shoeing and Milking Competitions, Poultry and Horticultural Shows, and Exhibitions illustrative of Bee-keeping, Home Industries, Art-Manufactures, and the Sciences connected with Agriculture and Horticulture.

Membership entitles to free admission to the Annual Exhibition, and also to the Grand Stand overlooking the Horse and Cattle Ring, to the Reserved Seats in the Working-Dairy, and to the use of the Members' Special Pavilion for Reading, Writing, &c.

Entries can be made by Members (elected on or before the last Tuesday in January preceding the Show) at half the Fees payable by Non-Members.

THE JOURNAL.

All Members receive free of charge the Society's Journal, which is published annually bound in cloth. It has for its aim the dissemination of agricultural knowledge in a popular form, and in addition to original articles by well-known agricultural authorities, it contains particulars of the Society's general operations, full reports of its experimental and research work, prize awards, financial statements, lists of Members, reviews of new books on agriculture, &c. (The price of the Journal to non-Members is 6s. 4d. post free.)

CHEMICAL, BOTANICAL, AND OTHER FACILITIES.

The Society has a Consulting Chemist (Dr. J. A. Voelcker, M.A., F.I.C., &c.), and a Consulting Botanist (Mr. W. Carruthers, F.R.S.), from whom Members can obtain analyses and reports at reduced rates of charge. An arrangement has also been made under which Members of the Society can obtain, free of charge, from the National Fruit and Cider Institute at Long Ashton, analyses of cider-apples and Perry-pears.

EXPERIMENTS.

Experiments on Crops are conducted at experimental stations in various parts of the Kingdom, and Members are enabled to take part in these and to receive reports thereon.

ART-MANUFACTURES, NATURE STUDY, FORESTRY, &c.

One of the objects for which the Society was founded was the encouragement of Arts as well as Agriculture, and, to this end, exhibitions are held of Art-Manufactures and of work representative of Arts and Handicrafts. Exhibitions are also held illustrating Nature Study, as a branch of Education; the Science of Forestry, &c.

TERMS OF MEMBERSHIP.

ANNUAL SUBSCRIPTIONS.

Ordinary Members, not less than £1

Tenant Farmers, the rateable value of whose holdings does }
not exceed £200 a-year, not less than } 10s.

Governors who are eligible for election as President, or Vice-President, and who subscribe not less than £2, are entitled, in addition to the privileges already mentioned, to an extra Season Ticket for the Annual Exhibition and to the Grand Stand, &c. Governors subscribing more than £2 are entitled to a further Ticket for every additional £1 subscribed.

Members subscribing less than £1 are entitled to all the privileges of Membership except that of entering Stock at reduced fees, and their admission Ticket for the Annual Show is available for *one day only* instead of for the whole time of the Exhibition.

LIFE COMPOSITIONS.

Governors may compound for their Subscription for future years by payment, in advance, of £20; and Members by payment, in advance, of £10. Governors and Members who have subscribed for twenty years may become Life Members on payment of half these amounts.

Any person desirous of joining the Society can be proposed by a Member, or by

THOS. F. PLOWMAN,

Secretary and Editor,

3, Pierrepoint Street, Bath.

Telegraphic Address—"PLOWMAN, BATH."

Bath and West and Southern Counties Society.

GENERAL LAWS.

As revised in accordance with the Report of a Special Committee ; which Report was received and adopted by the Annual General Meeting of Members, held on May 30, 1895.

COMPOSITION OF THE SOCIETY.

I. The Society shall consist of a President, Vice-Presidents, Trustees, Council, Treasurer, Secretary, and Members.

OBJECTS.

II. The Society shall have the following objects :—

- a. To hold Exhibitions of breeding stock, agricultural implements, and such other articles connected with agriculture, arts, manufactures or commerce, as may be determined upon by the Council.
- b. To conduct practical and scientific investigations in agriculture.
- c. To promote technical education in agriculture by providing means of systematic instruction.
- d. To publish a Journal for circulation.

SUBSCRIPTIONS.

III. The Annual Subscription for Members shall be as follows :—

Governors (who are eligible for election as President or Vice-President), not less than	£2
Ordinary Members, not less than	£1
Tenant Farmers (the rateable value of whose holdings does not exceed £200 a-year), not less than	10s.

IV. The payment of £20 in one sum shall constitute a Governor for life, and of £10 in one sum an Ordinary Member for life ; but any Governor who has subscribed not less than £2 annually for a period of twenty years may become a Life Governor on the further payment of £10 in one sum ; and any Ordinary Member, who has subscribed not less than £1 annually for the same period may become a Life Member on the further payment of £5 in one sum.

V. Subscriptions shall become due and be payable in advance on the 1st of January in each year or as soon as the Subscriber has been elected a Member. When the election takes place during the last quarter of the year the subscription payable on election will be considered as applying to the ensuing year.

VI. A Member shall be liable to pay his subscription for the current year unless he shall have given notice, in writing, to the Secretary before January 1st of his intention to withdraw.

GOVERNING BODY.

VII. The entire management of the Society—including the making of Bye-laws, election of Members, determining the Prizes to be awarded, appointing Committees, fixing the Places of Meetings and Exhibitions, appointing or removing the Treasurer, Secretary, and such other officers as may be required to carry on the business of the Society—shall be vested in the Council, who shall report its proceedings at the Annual Meetings of the Society.

VIII. The Council shall consist of the Patron (if any), President, Vice-President, Trustees, and Treasurer (who shall be *ex-officio* Members), and of sixty-six elected Members.

ELECTION OF PRESIDENT, VICE-PRESIDENTS, TRUSTEES, AND COUNCIL.

IX. The election of a President for the year of any additional Vice-Presidents or Trustees, and of the Members of Council representing the Divisions named in Law X., shall take place at the Annual Meeting of the Society, and they shall enter into office at the conclusion of the Exhibition during which such Annual Meeting has been held.

X. The sixty-six Members of the Council referred to in Laws VIII. and IX. shall consist of fifty-eight persons residing or representing property in the following Divisions, *viz.* :—

Twelve from the Counties of Devon and Cornwall, which shall be called the Western Division ;

Twenty-four from the Counties of Somerset, Dorset, and Wilts, which shall be called the Central Division ;

Twelve from the Counties of Hants, Berks, Oxon, Bucks, Middlesex, Surrey, Sussex, and Kent, which shall be called the Southern Division ; and

Ten from the Counties of Worcester, Gloucester, Hereford and Monmouth, and the Principality of Wales, which shall be called the North-Western Division.

The remaining eight shall be elected (irrespective of locality) from the general body of members, and shall form a Division which shall be called the " Without Reference to District " Division.

XI. One half of the elected Members in each of the five Divisions named in Law X. shall retire annually by rotation, but shall be eligible for re-election.

XII. The Council shall have power to nominate a President, Vice-Presidents, Trustees, and Members of Council for the approval of the Annual Meeting, and to fill up such vacancies in their own body as are left after the Annual Meeting, or as may from time to time occur during the interval between the Annual Meetings.

XIII. Nominations to offices, election to which is vested in the whole body of Members, must reach the Secretary ten days before the meeting at which such vacancies are to be filled up.

MEETINGS.

XIV. The Annual Meeting of the Society shall take place during the holding of the annual Exhibition.

XV. Special General Meetings of the Society may be convened by the President on the written requisition of not less than three Members of Council ; and all Members shall have ten days' notice of the object for which they are called together.

XVI. No Member of less than three months' standing, or whose subscription is in arrear, shall be entitled to vote at a Meeting.

EXHIBITIONS.

XVII. The Annual Exhibitions of the Society shall be held in different Cities or Towns in successive years.

XVIII. All Exhibitors shall pay such fees as may be fixed by the Council. Members subscribing not less than £1 per annum, who have been elected previous to February 1st, and have paid the subscription for the current year, shall be entitled to exhibit at such reduction in these fees as the Council shall determine.

PRIZES.

XIX. All prizes offered at the cost of the Society shall be open for competition to the United Kingdom.

XX. No person intending to compete for any prize offered at the annual Exhibition shall be eligible to act as a judge or to have any voice in the selection of judges to award the premiums in the department in which he exhibits.

XXI. If it be proved to the satisfaction of the Council that any person has attempted to gain a prize in this, or in any other society, by a false certificate or by a misrepresentation of any kind, such person shall thereupon be, for the future, excluded from exhibiting in this Society.

JOURNAL.

XXII. The Proceedings of the Society, Awards of Prizes, Financial Statements, and Lists of Officers, Governors, and Members, shall be printed annually in the Society's Journal, and every Governor and Member, not in arrear with his subscription, shall be entitled to receive one copy, free of expense, and there shall be an additional number printed for sale.

POLITICS.

XXIII. No subject or question of a political tendency shall be introduced at any Meeting of this Society.

ALTERATIONS IN LAWS.

XXIV. No new General Law shall be made or existing one altered, added to, or rescinded, except at an Annual or Special General Meeting, and then only provided that a statement of particulars, in writing, shall have been sent to the Secretary at least twenty-one days previous to the Meeting at which the question is to be considered.

(lxxxix)

List of Officers.

1907-1908.

DORCHESTER MEETING.

PATRON.

HIS MOST GRACIOUS MAJESTY THE KING.

PRESIDENT FOR 1907-1908,

THE RIGHT HON. THE LORD DIGBY.

TRUSTEES.

- *BATH, THE MARQUESS OF, Longleat, Warminster.
ACLAND, SIR C. T. D., BART., Killerton, Exeter.
EDWARDS, C. L. F., The Court, Axbridge, Somerset.

VICE-PRESIDENTS.

- | | |
|--------------------------------|---|
| *WALES, H.R.H. THE PRINCE OF | . Sandringham, Norfolk |
| ACLAND, SIR C. T. D., Bart. | . Killerton, Exeter |
| *AMHERST, EARL | . Montreal, Sevenoaks, Kent |
| *BATH, MARQUESS OF | . Longleat, Warminster |
| *BEAUFORT, DUKE OF | . Badminton, Chippenham |
| BRYMER, W. E. | . Ilington House, Dorchester |
| *CLARENDON, EARL OF | . The Grove, Watford |
| COLLINS, C. R. | . Hartwell House, Exeter |
| *COVENTRY, EARL OF | . Croome Court, Severn Stoke, Worcester |
| DAW, R. R. M. | . 9, Regent's Park, Heavitree, Exeter |
| DEVONSHIRE, DUKE OF, K.G.. | . Chatsworth, Derbyshire |
| *DUCIE, EARL OF | . Tortworth, Falfield, R.S.O. |
| FITZHARDINGE, LORD | . Cranford, Hounslow |
| HOBHOUSE, RIGHT HON. H. . . | . Hadsen House, Castle Cary |
| *JERSEY, EARL OF | . Middleton Park, Bicester, Oxon |
| JONES, H. P. | . Beaufort House, Winchester |
| *LANSDOWNE, MARQUESS OF, K.G. | . Bowood, Calne |
| *LLEWELYN, SIR J. T. D., Bart. | . Penllergare, Swansea |
| MASKELYNE, N. STORY, F.R.S. | . Basset Down House, Swindon |
| MORETON, LORD | . Sarsdon House, Chipping Norton |
| *MOUNT-EDGUMBE, EARL OF . . | . Mount Edgcumbe, Devonport |
| NEVILLE-GRENVILLE, R. . . . | . Butleigh Court, Glastonbury |
| NORTHUMBERLAND, DUKE OF . . | . Albury Park, Guildford |

*. * Those to whose names an asterisk (*) is prefixed have filled the office of President.

List of Officers, 1907-1908.

VICE-PRESIDENTS—*continued.*

*ONSLow, EARL OF, G.C.M.G.	. . .	7, Whitehall Place, London. S.W
*PLYMOUTH, THE EARL OF	. . .	Hewell Grange, Bromsgrove
POLTIMORE, LORD	. . .	Poltimore, Exeter
*PORTMAN, VISCOUNT	. . .	Bryanston, Blandford
*RADNOR, EARL OF	. . .	Longford Castle, Salisbury
SAINT-GERMANS, EARL OF	. . .	Port Elliot, Devonport
SHELLEY, SIR J., Bart.	. . .	Shobrooke Park, Crediton
SOMERSET, DUKE OF	. . .	Maiden Bradley, Bath
*TREDEGAR, VISCOUNT	. . .	Tredegar Park, Newport, Monmouth
WALERAN, LORD	. . .	Bradfield, Cullompton
WILLIAMS, E. W.	. . .	Herringston, Dorchester
THE LORD WARDEN OF THE STANNARIES.		
THE SURVEYOR-GENERAL OF THE DUCHY OF CORNWALL.		
THE RECEIVER-GENERAL OF THE DUCHY OF CORNWALL.		

. Those to whose names an asterisk (*) is prefixed have filled the office of President.

MEMBERS OF COUNCIL.

EX-OFFICIO MEMBERS.

THE PATRON.
THE PRESIDENT.

THE VICE-PRESIDENTS.
THE TRUSTEES.
THE TREASURER.

ELECTED MEMBERS.

WESTERN DIVISION (DEVON AND CORNWALL).

(12 Representatives.)

<i>Elected in 1906.</i>		<i>Elected in 1907:—</i>	
<i>Name.</i>	<i>Address.</i>	<i>Name.</i>	<i>Address.</i>
BUCKINGHAM, REV. F. F.	The Rectory, Doddish-combeleigh, Exeter	BOSCAWEN, Rev. A. T.	Ludgvan Rectory, Long Rock, R.S.O., Cornwall
BYNG, COL. HON. C.	Edymead House, Launceston	BOSCAWEN, HON. J. B.	Tregye, Perranwell, Corn-de C. wall [Devon]
GIBBS, A. H.	Pytke, Clyst St. George, Topsham, Devon	DRUMMOND, H. W.	Syon House, Budleigh
MOORE-STEVENS, COL. R. A.	Cross, Torrington, Devon	LEVERTON, W.	Woolleigh Barton, Beaford, N. Devon
SMYTHE OSBOURNE, J. S.	Ash, Idlesleigh, Devon	SILLIFANT, A. O.	Culm Leigh, Stoke Canon Exeter
STUDDY, T. E.	Mazonet, Stoke Gabriel, Totnes	VOSPER, W. P.	Merafield, Plympton

CENTRAL DIVISION (SOMERSET, DORSET, AND WILTS.)

(24 Representatives.)

ALLEN, J. D.	Springfield House, Shepton Mallett	FARWELL, E. W.	11, Laura Place, Bath
FONCROFT, E. T. D.	Hinton Charterhouse, Bath	FOWLER, W. H.	Claremont, Taunton
GIBSON, J. T.	Hayvet Lodge, Langford, R.S.O., Somerset	GIBBONS, G.	Tunley Farm, near Bath
LEWELLYN, COL. E. H.	The Court Farm, Langford, Bristol	GLYN R. F.	The Cross House, Fontmell Magna, Shaftesbury, Dorset
MAULE, M. ST. J.	Chapel House, Bath	HURLE, J. C.	Bristolington Hill, Bristol
MILES, SIR H., Bart.	Abbotsleigh, Bristol	PHIPPS, C. N. P.	Chalcot, Westbury, Wilts
NAPIER, H. B.	Long Ashton, Clifton, Bristol	RAWLENCE, E. A.	Newlands, Salisbury
PARRY-ORFEDEN, LT.-COL. U. E. P.	Turnworth, Blandford, Dorset	SHERSTON, C. J. T.	Evercreech, Somerset
SHERSTON, MAJOR C. D.	Evercreech, Bath	SMITH, A. J.	Brooklea, Bringtonton, Bristol
SKIRNE, COL. H. M.	Warleigh Manor, Bath	SOMERVILLE, A. F.	Dinder House, Wells
TUDWAY, C. C.	The Cedars, Wells, Somt.	STRACHEY, SIR E., Bart, M.P.	Penstord, Somerset
WYNFORD, LORD	Wynford House, Maiden Newton, Dorset.	WHITE, A. R.	Charnage, Mere, Wilts

SOUTHERN DIVISION (HANTS, BERKS, OXON, BUCKS, MIDDLESEX, SURREY, SUSSEX AND KENT.)

(12 Representatives.)

BEST, CAPT. T. G.	Redrice, Andover, Hants	ASHCROFT, W.	13, The Waldrons, Croydon
JERVOISE, F. H. T.	Herriard Park, Basingstoke	BENYON, J. H.	Englefield House, Reading
KNOLLYS, C. R.	The Grange, Alresford, Hants	COBB, H. M.	Higham, Kent
LATHAM, T.	Dorchester, Oxon	CUNDALL, H. M., I.S.O., F.S.A.	Richmond, Surrey
NAPIER, COL. W. D.	2b, Dawson Place, Hyde Park, London, W.	MATHEWS, E.	Little Shardeelos, Amersham, Bucks
RUTHERFORD, J. A.	Highclere Estate Office, Newbury	SUTTON, M. J.	Holme Park, Sonning, Berks

NORTH-WESTERN DIVISION (WORCESTERSHIRE, GLOUCESTERSHIRE, HEREFORDSHIRE, MONMOUTHSHIRE AND WALES.)

(10 Representatives.)

BEST, CAPT. W.	Ystrad, Llangollen	ALEXANDER, D. T.	Cardiff
CHESTER MASTER, COL. T. W.	Knowle Park, Almondsbury	BAKER, G. E. LLOYD	Hardwicke Court, Gloucester
COTTERELL, SIR J., Bart.	Garnons, Hereford	BRITTEN, ADMIRAL R. F.	Kenswick, Worcester
LIPSCOMB, G.	Margam Park Estate Office, Port Talbot	TAYLOR, H. W.	Showle Court, Ledbury
PHILLIPS, C. D.	Newport, Mon.	WEBB, E.	Wordsley, Stourbridge

WITHOUT REFERENCE TO DISTRICT DIVISION.

(8 Representatives.)

CARE, RICHARDSON	Estate Office, Tring Park, Tring	ALEXANDER, H. G.	5, High Street, Cardiff
ENFIELD, VISCOUNT	Dancer's Hill, Barnet	DAW, J. E.	Exeter
INGLIS, J. C.	General Manager, G.W.R., Paddington	IRBY, CAPT. L. P.	Brook House, Eastry, Kent

STANDING COMMITTEES, 1907-1908.

[The PRESIDENT is *ex-officio* Member of all Committees.]

ALLOTMENT.

, *Chairman.*

BATH, MARQUESS OF	GIBBONS, G.	SULLIVANT, A. O.
BEST, CAPT. W.	NAPIER, H. B.	STUDDY, T. E.
EDWARDS, C. L. F.	SHERSTON, MAJOR C. D.	

CONTRACTS.

EDWARDS, C. L. F., *Chairman.*

BATH, MARQUESS OF	MILES, SIR H. BART.	NEVILLE-GRENVILLE, R.
BEST, CAPT. W.	NAPIER, H. B.	STUDDY, T. E.

DAIRY.

ACLAND, SIR C. T. D., Bart., *Chairman.*

ALLEN, J. D.	HURLE, J. COOKE	NAPIER, H. B.
ASHCROFT, W.	KNOLLYS, C. R.	NEVILLE-GRENVILLE, R.
BOSCAWEN, REV. A. T.	LATHAM, T.	SOMERVILLE, A. F.
CARR RICHARDSON	LLEWELLYN, COL. E. H.	STRACHEY, SIR E., Bart.
FOWLER, W. H.	MASKELYNE, N. STORY-	(M.P.)
GIBBONS, G.	(F.R.S.)	TUDWAY, C. C.
GIBSON, J. T.	MATHEWS, E.	WHITE, A. R.

DISQUALIFYING.

THE STEWARDS OF LIVE STOCK AND PRODUCE.

EXPERIMENTS AND EDUCATION.

ACLAND, SIR C. T. D., Bart., *Chairman.*

ALLEN, J. D.	GIBSON, J. T.	NEVILLE-GRENVILLE, R.
ASHCROFT, W.	HOBHOUSE, RT. HON. H.	RAWLENCE, E. A.
BAKER, G. E. LLOYD	HURLE, J. COOKE	RUTHERFORD, J. A.
BENYON, J. H.	KNOLLYS, C. R.	SMYTHE-OSBOURNE, J. S.
FOX-CROFT, E. T. D.	LATHAM, T.	SUTTON, M. J.
GIBBONS, G.	MASKELYNE, N. STORY-	
	(F.R.S.)	

(With power to add to their number.)

FINANCE.

COLLINS, C. R., *Chairman.*

NAPIER, H. B.	GIBBS, A. H.	LLEWELLYN, Col. E. H.
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IMPLEMENT REGULATIONS.

SHELLEY, SIR J., Bart., *Chairman.*

ACLAND, SIR C. T. D.,	BRITTEN, ADMIRAL R. F.	NAPIER, H. B.
Bart.	EDWARDS, C. L. F.	NEVILLE-GRENVILLE, R.
BATH, MARQUESS OF	GIBBONS, G.	STUDDY, T. E.
BEST, CAPT. W.	MOORE-STEVENS, COL.	
	R. A.	

JOURNAL.

ACLAND, Sir C. T. D., Bart., *Chairman.*

BAKER, G. E. LLOYD	HOBHOUSE, RIGHT HON. H.	MASKELYNE, N. STORY- (F.R.S.)
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JUDGES' SELECTION.

SILLIFANT, A. O., *Chairman.*

ALEXANDER, D. T.	GIBBONS, G.	PHIPPS, C. N. P.
ALLEN, J. D.	MATHEWS, E.	SHELLEY, Sir J., Bart.
ASHCROFT, W.	MOORE-STEVENS, COL.	SHERSTON, MAJOR C. D.
BYNG, COL. HON. C.	R. A.	WYNFORD LORD
CHESTER MASTER, COL. T. W.	PARRY-OKEDEN, LIEUT.- COL. U. E. P.	

RAILWAY ARRANGEMENTS AND ADVERTISEMENTS.

, *Chairman.*

ALEXANDER, D. T.	DRUMMOND, H. W.	PHILLIPS, C. D.
AMHERST, EARL	INGLIS, J. C.	SHELLEY, Sir J., Bart.
COVENTRY, EARL OF	LLEWELLYN, COL. E. H.	WEBB, E.

(With power to add to their number.)

SCIENCE AND ART.

BATH, MARQUESS OF, *Chairman.*

ACLAND, Sir C. T. D., Bart.	FARWELL, E. W.	MASKELYNE, N. STORY- (F.R.S.)
CUNDALL, H. M., I.S.O., (F.S.A.)	HOBHOUSE, RT. HON. H.	NAPIER, H. B.
DAW, R. R. M.	LEGARD, A. G.	NORTH, G. F.
	LIPSCOMB, G.	RUTHERFORD, J. A.
	LLEWELYN, Sir J. T. D., Bart.	

(With power to add to their number.)

SELECTION.

THE CHAIRMEN OF ALL OTHER COMMITTEES.

SHOW DATES.

, *Chairman.*

CHAIRMEN OF THE ALLOTMENT, CONTRACTS, DAIRY, FINANCE, IMPLEMENT
REGULATIONS, RAILWAY ARRANGEMENTS, AND STOCK PRIZE SHEET COMMITTEES.

(With power to add two Local Members to their number.)

STOCK PRIZE SHEET.

SILLIFANT, A. O., *Chairman.*

ALEXANDER, D. T.	BUCKINGHAM, REV. F. F.	MATHEWS, E.
ALLEN, J. D.	BYNG, COL. HON. C.	MILES, Sir H., Bart.
ASHCROFT, W.	COTTERELL, Sir J., Bart.	SHELLEY, Sir J., Bart.
BATH, MARQUESS OF	GIBBONS, G.	SHERSTON, MAJOR C. D.
BOSCAGEN, HON. J. R. de C.	LEVERTON, W.	VOSPER, W. P.
		WYNFORD, LORD

WORKS.

EDWARDS, C. L. F., *Chairman.*

BATH, MARQUESS OF	NAPIER, H. B.
BEST, CAPT. W.	SIUDDY, T. E.

Stewards.*Science and Arts.*

CUNDALL, H. M. (I.S.O., F.S.A.)

Cattle, Sheep and Pigs.

SILLIFANT, A. O.

BYNG, COL. HON. C.

ASHCROFT, W.

Cider.

FARWELL, E. W.

Dairy.

GIBBONS, G. KNOLLYS, C. R.

Dairy Tests.

SOMERVILLE, A. F.

Experiments.

ASHCROFT, W.

Finance.

COLLINS, C. R. GIBBS, A. H.

NAPIER, H. B. LLEWELLYN,
COL. F. H.*Forestry.*

LITSCOMB, G.

Horses.

SHERSTON, MAJOR C. D.

SHELLEY, Sir J., Bart.

Horticulture.

BOSCAWEN, REV. A. T.

Music.

CUNDALL, H. M. (I.S.O., F.S.A.)

Poultry.

BOSCAWEN, HON. J. R. de C.

Shoeing.

LATHAM, T.

Yard.

EDWARDS, C. L. F.

BEST, CAPT. W.

BATH, MARQUESS OF

Other Honorary Officials.*Treasurer*—BADCOCK, H. J.*Chaplain.*

BOSCAWEN, REV. A. T.

Permanent Officials.*Secretary and Editor*—PLOWMAN, THOMAS F.*Associate Editor.*

LLOYD, F. J. (F.C.S.)

*Auditor.*GOODMAN, F. C. (*Chartered Accountant*)*Consulting Chemist.*

VOELCKER, Dr. J. A. (M.A., F.I.C.)

Consulting Botanist.

CARRUTHERS, W. (F.R.S.)

Veterinary Inspector

PENBERTHY, Prof. J. (F.R.C.V.S.)

Superintendent of Works.

ROSSITER, J.

Annual Exhibitions.

Year.	Place Visited.	Local Subscription.	Prizes.			Total Local Contribution.	President.	Admissions.		
			Local Committee.	Local Societies.	Local Residents.			On 2/6 Days.	On 1/- Days.	Total.
1852	Taunton	£ 210	£	£	£	£ 210	Lord Portman	..	..	..
1853	Plymouth	450	..	..	..	450	Sir T. D. Acland, Bart.	..	..	..
1854	Bath	450	..	..	..	450	William Miles, M.P.	..	..	..
1855	Tiverton	450	..	..	..	450	Earl Fortescue	..	..	..
1856	Yeovil	450	..	..	..	450	C. A. Moody, M.P.	..	..	..
1857	Newton Abbot	700	..	..	..	700	Lord Courtenay	..	..	..
1858	Cardiff	800	..	..	..	800	Lord Courtenay	..	..	..
1859	Barnstaple	800	85	..	81	966	John Sillifant	..	..	..
1860	Dorchester	900	..	..	..	900	Lord Rivers	10,709	11,949	22,658
1861	Truro	900	..	..	..	900	J. W. Buller, M.P.	15,201	14,220	29,421
1862	Wells	900	..	..	..	900	Sir T. D. Acland, Bart.	10,578	4,775	15,353
1863	Exeter	900	..	..	..	900	Marquess of Bath.	15,635	19,284	34,919
1864	Bristol	1000	106	..	50	1156	Earl Fortescue	22,377	65,678	88,055
1865	Hereford	900	358	..	..	1258	Lord Taunton	16,575	35,261	51,836
1866	Salisbury	900	57	..	..	957	Earl of Portsmouth	7,288	18,737	26,025
1867	Salisbury	900	..	..	..	900	J. J. Themayne	7,502	16,702	24,204
1868	Falmouth	900	132	..	18	1050	Sir J. T. B. Duckworth, Bart.	11,393	19,495	30,888
1869	Southampton	900	..	..	..	900	Earl of Carnarvon	15,340	41,290	56,630
1870	Taunton	900	110	..	..	900	Sir S. H. Northcote, Bart., C.B., M.P.	17,952	33,653	51,605
1871	Guildford	900	..	..	..	1010	Earl of Cork	10,656	23,406	34,062
1872	Dorchester	800	..	..	10	810	Duke of Marlborough, K.G.	12,791	21,517	34,308
1873	Plymouth	800	..	400	..	1200	Earl of Mount-Edgumbe.	16,665	45,744	62,409
1874	Bristol	800	403	..	..	1203	Sir Massey Lopes, Bart., M.P.	37,329	72,791	110,120
1875	Croydon	800	245	..	..	1045	R. Benyon, M.P.	14,518	26,028	40,546
1876	Hereford	800	381	..	..	1181	Earl of Ducie	16,396	32,645	49,041
1877	Bath	800	215	..	..	1015	Marquess of Lansdowne	27,625	48,852	76,477
1878	Oxford	800	..	170	6	976	Earl of Jersey	12,414	26,995	39,409

ANNUAL EXHIBITIONS—continued.

Year.	Place Visited.	Prizes.			President.	Admissions.			
		Local Subscrip- tion.	Local Com- mittee.	Local Societies.	Total Local Contri- bution.	On 5/- Day.	On 2/6 Days.	On 1/- Days.	Total.
1879	Exeter .	£ 800	£	£	£ 810	..	14,634	40,533	55,167
1880	Worcester .	800	..	254	1054	..	8,415	37,675	46,090
1881	Tunbridge Wells	800	245	34	1079	..	13,368	33,236	46,604
1882	Cardiff .	800	200	198	1215	..	23,941	38,680	62,621
1883	Bridgwater .	800	78	..	878	..	17,171	31,241	48,412
1884	Maidstone .	800	310	33	1218	..	13,501	31,053	44,554
1885	Brighton .	800	227	33	1142	..	9,637	39,851	49,488
1886	Bristol .	800	525	..	1325	..	29,580	70,999	100,579
1887	Dorchester .	800	..	112	912	..	8,860	29,846	38,706
1888	Newport (Mon.)	800	100	..	900	..	14,878	38,567	53,445
1889	Exeter .	800	..	..	810	..	16,405	36,195	52,600
1890	Rochester .	800	294	..	1120	..	3,480	48,314	51,794
1891	Bath .	800	50	103	1053	..	23,510	52,185	75,695
1892	Swansea .	800	200	100	1110	..	18,364	54,609	72,973
1893	Gloucester .	800	400	..	1200	..	14,272	40,368	54,640
1894	Guildford .	800	174	..	984	..	8,671	29,813	38,484
1895	Taunton .	800	85	160	1055	..	13,181	30,111	43,292
1896	St. Albans .	800	152	..	952	..	12,056	22,380	34,436
1897	Southampton	800	50	..	850	..	8,284	33,750	42,034
1898	Cardiff .	800	200	..	1000	..	13,101	42,501	55,602
1899	Exeter .	800	..	225	1030	..	16,091	39,832	55,923
1900	Bath .	800	100	150	1050	954	11,601	36,814	49,369
1901	Croydon .	800	115	..	915	1,196	9,362	30,693	41,251
1902	Plymouth .	800	105	100	1041	842	12,629	40,565	54,036
1903	Bristol .	800	434	50	1345	..	34,528	74,352	108,880
1904	Swansea .	800	350	..	1150	..	28,205	50,662	78,827
1905	Nottingham	800	..	218	1018	..	8,913	45,961	54,871
1906	Nottingham	800	..	200	1000	..	7,838	42,013	49,851
1907	Newport .	800	201	51	1051	..	10,236	37,819	48,055

Earl of Morley .
 Earl of Coventry .
 Marquess of Abergavenny
 Lord Tredegar
 Lord Brooke, M.P.
 Viscount Holmesdale
 Viscount Hampden
 Lord Carlisle
 Earl of Ilchester
 Lord Tredegar
 Lord Clinton
 Earl of Darnley
 Earl Temple .
 Sir J. T. D. Llewellyn, Bart.
 Lord Fitzhardinge .
 Earl of Onslow
 Viscount Portman .
 Earl of Clarendon .
 Lord Montagu of Beaulieu
 Lord Windsor
 Lord Clinton
 Marquess of Bath
 (H.R.H. The Duke of Cornwall)
 and York, K.G.
 Earl of Morley
 Duke of Beaufort
 Lord Windsor
 Duke of Portland, K.G.
 Earl of Radnor
 H.R.H. The Prince of Wales, K.G.

Members' Privileges.

ANALYSES OF FERTILISERS, FEEDING STUFFS WATERS, SOILS, &c.

(Applicable only to the case of Persons who are not commercially engaged in the manufacture or sale of any substance sent for Analysis).

Members of the Bath and West and Southern Counties Society, who may also be Members of other Agricultural Societies, are particularly requested, in applying for Analyses, to state that they do so as Members of the first-named Society.

THE Council have fixed the following rates of Charges for Chemical Analyses to Members of the Society.

These privileges are applicable only when the analyses are for *bona-fide* agricultural purposes, and are required by Members of the Society for their own use and guidance in respect of farms or land in their own occupation and within the United Kingdom.

The analyses are given on the understanding that they are required for the individual and sole benefit of the Member applying for them, and must not be used for other persons, or for commercial purposes.

Land or estate agents, bailiffs, and others, when forwarding samples are required to state the names of those Members on whose behalf they apply.

Members are also allowed to send for analysis under these privileges any manures or feeding-stuffs to be used by their outgoing tenants, or which are to be given free of cost to their occupying tenants.

The analyses and reports may not be communicated to either vendor or manufacturer, except in cases of dispute.

Members are requested, when applying for an analysis, to quote the number in the subjoined schedule under which they wish it to be made.

No.

- | | |
|---|-----------------|
| 1.—An opinion of the purity of bone-dust or oil cake (each sample) | 2s. 6d. |
| 2.—An analysis of sulphate or muriate of ammonia, or of nitrate of soda, together with an opinion as to whether it be worth the price charged | 5s. |
| 3.—An analysis of guano, showing the proportion of moisture, organic matter, sand, phosphate of lime, alkaline salts and ammonia, together with an opinion as to whether it be worth the price charged | 10s. |
| 4.—An analysis of mineral superphosphate of lime for soluble phosphates only, together with an opinion as to whether it be worth the price charged | 5s. |
| 5.—An analysis of superphosphate of lime, dissolved bones, &c., showing the proportions of moisture, organic matter, sand, soluble and insoluble phosphates, sulphate of lime, and ammonia, together with an opinion as to whether it be worth the price charged | 10s. |
| 6.—An analysis of bone-dust, basic slag, or any other ordinary artificial manure, together with an opinion as to whether it be worth the price charged | 10s. |
| 7.—An analysis of compound artificial manures, animal products, refuse substances used for manure, &c. | from 10s. to £1 |
| 8.—An analysis of limestone, showing the proportion of lime | 7s. 6d. |
| 9.—An analysis of limestone, showing the proportion of lime and magnesia | 10s. |
| 10.—An analysis of limestone or marls, showing the proportion of carbonate, phosphate, and sulphate of lime and magnesia, with sand and clay | 10s. |
| 11.—Partial analysis of a soil, including determinations of clay, sand, organic matter, and carbonate of lime | £1 |
| 12.—Complete analysis of a soil | £3 |
| 13.—An analysis of oil-cake or other substance used for feeding purposes, showing the proportion of moisture, oil, mineral matter, albuminous matter, and woody fibre as well as of starch, gum, and sugar in the aggregate; and an opinion of its feeding and fattening or milk-producing properties | 10s. |
| 14.—Analysis of any vegetable product | 10s. |
| 15.—Determination of the "hardness" of a sample of water before and after boiling | 5s. |
| 16.—Analysis of water of land-drainage, and of water used for irrigation | £1 |
| 17.—Analysis of water used for domestic purposes | £1 10s. |
| 18.—An analysis of milk (to assist Members in the management of their Dairies and Herds, <i>bona-fide</i> for their own information and not for trade purposes, nor for use in connection with the Sale of Food and Drugs Acts) | 5s. |
| 19.—Personal consultation with the Consulting Chemist. (To prevent disappointment it is suggested that Members desiring to hold a consultation with the Consulting Chemist should write to make an appointment) | 5s. |
| 20.—Consultation by letter | 5s. |
| 21.—Consultation necessitating the writing of three or more letters | 10s. |

Members wishing to exercise their privileges on the above-named terms, should forward their samples for examination *by post or parcel prepaid*, to the Consulting Chemist, Dr. JOHN AUGUSTUS VOELCKER, M.A., F.I.C., 22, Tudor Street, New Bridge Street, London, E.C.

The fees for analysis must be sent to the Consulting Chemist at the time of application.

GUIDE TO PURCHASERS OF FERTILISERS AND FEEDING STUFFS.

Purchasers are recommended in every case to insist upon having an *Invoice* given to them. This invoice should set out clearly :—

In the case of Fertilisers—

- (1.) the name of the fertiliser ;
- (2.) whether the fertiliser be artificially compounded or not ;
- (3.) the analysis guaranteed in respect of the principal fertilising ingredients.

In the case of Feeding-Stuffs—

- (1.) the name of the article ;
- (2.) the description of the article ; whether it has been made from one substance or seed only, or from more than one.
- (3.) the analysis guaranteed in respect of Oil and Albuminoids.

(NOTE.—The use of the terms "Linseed-cake," "Cotton-cake," &c., implies that these cakes shall be "pure," and purchasers are recommended to insist upon these terms being without any qualification such as "95 per cent.," "as imported," &c. "Oil-cake" should be avoided.

Members of the Society should see that the *Invoices* agree accurately with the orders given by them, and, in giving these orders, they should stipulate that the goods come up to the guarantees set out in the following list, and that they be sold subject to the analysis and report of the Consulting Chemist of the Bath and West and Southern Counties Society.

FERTILISERS.

Raw Bones, Bone-meal, or Bone-dust to be guaranteed "**PURE**," and to contain not less than 45 per cent. of Phosphate of Lime, and not less than 4 per cent. of Ammonia.

Steamed or "Degelatinised" Bones to be guaranteed "**PURE**," and to contain not less than 55 per cent. of Phosphate of Lime, and not less than 1 per cent. of Ammonia.

Mineral Superphosphate of Lime to be guaranteed to contain a certain percentage of "Soluble Phosphate." [From 25 to 28 per cent. of Soluble Phosphate is an ordinarily good quality.]

Dissolved Bones to be guaranteed to be "made from raw bone and acid only," and to be sold as containing stated percentages of Soluble Phosphate, Insoluble Phosphates, and Ammonia.

Compound Artificial Manures, Bone Manures, Bone Compounds, &c., to be sold by analysis stating the percentages of Soluble Phosphate, Insoluble Phosphates, and Ammonia contained.

Basic Slag to be guaranteed to contain a certain percentage of Phosphoric Acid, and to be sufficiently finely ground that 80 to 90 per cent. passes through a sieve having 10,000 meshes to the square inch.

Peruvian Guano to be described by that name, and to be sold by analysis stating the percentages of Phosphates and Ammonia.

Sulphate of Ammonia to be guaranteed to be "**PURE**," and to contain not less than 24 per cent. of Ammonia.

Nitrate of Soda to be guaranteed to be "**PURE**," and to contain 95 per cent. of Nitrate of Soda.

Kainit to be guaranteed to contain 23 per cent of Sulphate of Potash.

All fertilisers to be delivered in good and suitable condition for sowing.

FEEDING-STUFFS.

Linseed Cake, Cotton Cake (Decorticated and Undecorticated), and **Rape Cake** (for feeding purposes) to be pure, i.e., prepared *only* from one kind of seed from which their name is derived, and to be in sound condition. The report of the Consulting Chemist of the Bath and West and Southern Counties Society to be conclusive as to the "purity" or otherwise of any feeding-stuffs. The percentages of Oil and Albuminoids must also be guaranteed.

Mixed Feeding Cakes, Meals, &c., to be sold on a guaranteed analysis.

All Feeding-Stuffs to be sold in sound condition, and to contain nothing of an injurious nature or worthless for feeding purposes.

INSTRUCTIONS FOR SELECTING AND SENDING SAMPLES FOR ANALYSIS.

GENERAL RULES.

1.—A sample taken for analysis should be fairly *representative of the bulk* from which it has been drawn.

2.—The sample should reach the Analyst *in the same condition* as it was at the time when drawn.

FERTILISERS.

When **Fertilisers** are delivered in bags, select four or five of these from the bulk, and either turn them out on a floor and rapidly mix their contents, or else drive a shovel into each bag and draw out from as near the centre as possible a couple of shovelfuls of the manure, and mix these quickly on a floor.

Halve the heap obtained in either of these ways, take one-half (rejecting the other) and mix again rapidly, flattening down with the shovel any lumps that appear. Repeat this operation until at last only some three or four pounds are left.

From this fill three tins, holding from $\frac{1}{2}$ lb. to 1 lb. each, mark, fasten up and seal each of these. Send one for analysis, and retain the others for reference.

Or,—the manure may be put into glass bottles provided with well-fitting corks; the bottles should be labelled and the corks sealed down. The sample sent for analysis can be packed in a wooden box and sent by post or rail.

When manures are delivered in bulk, portions should be successively drawn from *different parts* of the bulk, the heap being turned over now and again. The portions drawn should be thoroughly mixed, sub-divided, and, finally, samples should be taken as before, except that when the manure is coarse and bulky it is advisable to send larger samples than when it is in a finely-divided condition.

FEEDING-STUFFS.

Linseed, Cotton, and other Feeding Cakes.—If a single cake be taken three strips should be broken off right across the cake and from the middle portion of it, one piece to be sent for analysis, and the other two retained for reference. Each of the three pieces should be marked, wrapped in paper, fastened up and sealed. The piece forwarded for analysis can be sent by post or rail.

A more satisfactory plan is to select four to six cakes from different parts of the delivery, then break off a piece about four inches wide from the middle of each cake, and pass these pieces through a cake-breaker. The broken cake should then be well mixed, and three samples of about 1 lb. each should be taken and put in tins or bags duly marked, fastened, and sealed as before. One of these lots

(c)

should be sent for analysis, the remaining two being kept for reference. It is advisable, also, with the broken pieces, to send a small strip from an unbroken cake.

Feeding Meals, Grain, &c.—Handfuls should be drawn from the centre of half-a-dozen different bags of the delivery; these lots should then be well mixed, and three $\frac{1}{2}$ lb. tins or bags filled from the heap, each being marked, fastened up, and sealed. One sample is to be forwarded for analysis and the others retained for reference.

SOILS, WATERS, &c.

Soils.—Have a wooden box made, 6 inches in length and width, and from 9 to 12 inches deep, according to the depth of soil and subsoil of the field. Mark out in the field a space of about 12 inches square; dig round in a slanting direction a trench, so as to leave undisturbed a block of soil and its subsoil 9 to 12 inches deep; trim this block to make it fit into the wooden box, invert the open box over it, press down firmly, then pass a spade under the box and lift it up gently, turn over the box, nail on the lid, and send by rail. The soil will then be received in the position in which it is found in the field.

In the case of very light, sandy, and porous soils, the wooden box may be at once inverted over the soil and forced down by pressure, and then dug out.

Waters.—Samples of water are best sent in glass-stoppered Winchester bottles holding half a gallon. One such bottle is sufficient for a single sample. Care should be taken to have these scrupulously clean. In taking a sample of water for analysis it is advisable to reject the first portion drawn or pumped, so as to obtain a sample of the water when in ordinary flow. The bottle should be rinsed out with the water that is to be analysed, and it should be filled nearly to the top. The stopper should be secured with string, or be tied over with linen or soft leather. The sample can then be sent carefully packed either in a wooden box with sawdust, &c., or in a hamper with straw.

Milk.—A pint bottle should be sent in a wooden box.

GENERAL INSTRUCTIONS.

Time for Taking Samples.—All samples, both of fertilisers and feeding-stuffs, should be taken as soon after their delivery as possible, and should reach the Analyst within *ten days* after delivery of the article. In every case it is advisable that the Analyst's certificate be received before a fertiliser is sown or a feeding-stuff is given to stock.

Procedure in the event of the Vendor wishing Fresh Samples to be Drawn.—Should a purchaser find that the Analyst's certificate shows a fertiliser or feeding-stuff not to come up to the guarantee given him, he may inform the vendor of the result and complain accordingly. He should then send to the vendor *one* of the two samples which he has kept for reference. If, however, the vendor should demand that a fresh sample be drawn, the purchaser must allow this, and also give the vendor an opportunity of being present, either in person or through a representative whom he may appoint. In that case, three samples should be taken in the presence of both parties with the same precautions as before described, *each* of which should be duly packed up, labelled and *sealed* by both parties. One of these is to be given to the vendor, one is to be sent to the Analyst, and the third is to be kept by the purchaser for reference or future analysis if necessary.

All samples intended for the Consulting Chemist of the Society should be addressed (postage or carriage prepaid) to Dr. J. AUGUSTUS VOELCKER, M.A., F.I.C., 22, Tudor Street, New Bridge Street, London, E.C. Separate letters of instruction should be sent at the same time.

Members' Privileges.

EXAMINATION OF PLANTS AND SEEDS.

Members of the Bath and West and Southern Counties Society, who may also be Members of other Agricultural Societies, are particularly requested, in applying for Examination of Plants and Seeds, to state that they do so as Members of the first-named Society.

THE Council have arranged for the following rates of charge for the examination by the Society's Consulting Botanist of Plants and Seeds for the *bona-fide* and individual information and benefit of Members of the Society (not being seedsmen). The charge for examination must be paid at the time of application and the carriage of all parcels must be prepaid.

No.	
1.—A report on the purity and germinating power of a sample of seed, stating the sorts and amount of any other seeds found therein	1s.
2.—Determination of the species of any weed or other plant, or of any epiphyte or vegetable parasite, with a report on its habits, and the means for its extermination or prevention	1s.
3.—Report on any disease affecting farm crops	1s.
4.—Determination of the species of a collection of natural grasses found in any district with a report on their habits and pasture value	5s.

N.B.—The Consulting Botanist's Reports on Seeds are furnished to enable Members—purchasers of seeds and corn for Agricultural or Horticultural purposes—to test the value of what they buy, and not to be used or made available for advertising or trade purposes.

PURCHASE OF SEEDS.

The purchaser should obtain from the vendor, by invoice or otherwise, a proper designation of the seed he buys, with a guarantee that it contains not more than a specified amount of other seeds and is free from ergot, or in the case of clovers, from dodder, and of the percentage of seeds that will germinate.

The germination of cereals, green crops, clover, and timothy grass should be not less than 90 per cent. ; of fox-tail not less than 60 per cent. ; of other grasses not less than 70 per cent.

The Council strongly recommend that the purchase of prepared mixtures should be avoided, and that the different seeds to be sown should be purchased separately.

INSTRUCTIONS FOR SELECTING AND SENDING SAMPLES.

I. SEEDS.

In sending seed or corn for examination the utmost care must be taken to secure a fair and honest sample. In the case of grass-seeds the sample should be drawn from the centre of the sack or bag, and in all cases from the bulk delivered to the purchaser and not from the purchase sample. When bought by sample, the whole or part of that sample should also be sent.

When it is considered necessary to secure legal evidence the sample should be taken from the bulk and placed in a sealed bag in the presence of a reliable witness who is acquainted with the identity of the bulk, and care should be taken that the purchased sample and bulk be not tampered with after delivery, or mixed or come in contact with any other sample or stock.

One ounce of grass and other small seeds should be sent, and two ounces of cereals or larger seeds. The exact name under which the seed has been bought should be sent with it.

Grass-seeds should be sent at least FOUR WEEKS, and clover-seeds TWO WEEKS before they are required and they should not be sown until the report has been received.

II. PLANTS.

In-collecting specimens of plants, the whole plant should be taken up and the earth shaken from the roots. If possible, the plants must be in flower or fruit. They should be packed in a light box or in a firm paper parcel.

Specimens of diseased plants or of parasites should be forwarded as fresh as possible. They should be placed in a bottle, or packed in tinfoil or oil-silk.

All specimens should be accompanied with a letter specifying the nature of the information required and stating any local circumstances (soil, situation, &c.), which, in the opinion of the sender, would be likely to throw light on the inquiry.

Parcels or letters containing seeds or plants for examination (carriage or postage prepaid) must be addressed to Mr. W. CARRUTHERS, F.R.S., 43, Central Hill, Norwood, London, S.E.

DORCHESTER MEETING,
MAY 27, 28, 29, 30 and JUNE 1, 1908.
LIST OF JUDGES.

HORSES.

Agricultural.—J. T. C. EADIE, The Rock, Newton Solney, near Burton-on-Trent.

Hunters.—W. A. HARBORD, Petty France, Badminton.

Hackneys.—A. ROWELL, West Rudham Hall, King's Lynn, Norfolk.

Ponies.—Rev. E. A. MILNE, M.F.H., Chilfroome, Dorchester.

Harness and Jumping.—R. A. SANDERS, Barwick House, Yeovil.

CATTLE.

Devon.—C. L. HANCOCK, The Manor Farm, Cothelstone, Taunton.

South Devon.—J. CARPENTER, Pengellys, Alphington, Exeter.

Shorthorn and Dairy.—J. T. HOBBS, Maisey Hampton, Fairford.

Hereford.—J. H. YEOMANS, Withington, Hereford.

Sussex.—T. BANNISTER, Limehurst, Haywards Heath, Sussex.

Aberdeen Angus.—C. W. SCHROETER, Bella Vista, Haywards Heath, Sussex.

Jersey.—J. A. PERREE, Oaklands, St. Saviour's, Jersey.

Guernsey.—J. D. TOOGOOD PARSONS, Manor View, Rusthall, Tunbridge Wells.

Kerry and Dexter.—F. A. HORDERN, Buxted, Sussex.

SHEEP.

Cotswold.—G. FREEMAN, Sherborne, Northleach, R.S.O., Glos.

Devon Long Wool.—E. R. BERRY TORR, Instow, R.S.O., N. Devon.

Lincoln.—R. WRIGHT, Nocton Heath, Lincoln.

Southdown.—H. PENFOLD, La Bagatelle, The Grove, Blackheath.

Hampshire Down.—C. STANFORD, Breamore, Salisbury.

Shropshire.—J. E. FARMER, Felton, Ludlow.

Oxford Down.—W. D. LITTLE, Middleton Stoney, Bicester.

Dorset Down.—G. M. ROBERTS, Everley Farm, Blandford.

Dorset Horn.—C. B. STIBY, Bradford Peverell, Dorchester.

Exmoor Horn.—T. CRICK, Great Ash, Winsford, Dulverton.

PIGS.

Berkshire.—J. P. KING, North Stoke, Wallingford.

Large Black.—J. BASTARD, Tinten Manor, St. Tudge, R.S.O., Cornwall.

Large and Middle White, Tamworth and Any Breed.—H. SMITH, Sen., The Grove, Cropwell Butler, Nottingham.

POULTRY.

W. H. COOK, Model Poultry Farm, St. Paul's Cray, Kent (Classes 1 to 27 and 56 to 71).

W. SMITH LAMBERT, Harlow Court Farm, Harrogate (Classes 1, 28 to 55, and 56 to 71).

PRODUCE.

Cider.—J. BENNETT, Down House, Dursley, Glos.

Cheese.—E. HILL, Stratton House, Evercreech, S.O.

Cream Cheese, Butter and Cream.—W. J. GRANT, County Council Offices, Pentonville, Newport, Mon.

COMPETITIONS.

Butter-Making.—Professor CARROLL, 1, Rostrevor Terrace, Rathgar, Dublin, and W. J. GRANT, County Council Offices, Pentonville, Newport, Mon.

Milking.—R. HOSKINS, Beard Hill, Shepton Mallet.

Shoeing.—C. SHEATHER, F.R.C.V.S., 50a, York Terrace, Regent's Park, London, N.W.

MONEY PRIZES.

			£	s.	d.		PAGE
HORSES	..	..	850	0	0	..	civ
CATTLE ..	..	..	1,176	0	0	..	cviii
SHEEP ..	..	..	618	0	0	..	cxiii
PIGS ..	..	..	227	0	0	..	cxv
CHEESE	..	..	127	10	0	..	cxvii
CREAM CHEESE, BUTTER AND CREAM	..	..	82	0	0	..	cxviii
BUTTER-MAKING	..	..	48	0	0	..	cxix
MILKING	..	..	11	5	0	..	cxix
SHOEING	..	..	38	10	0	..	cxx
POULTRY	..	..	167	10	0	..	cxxx

£3,345 15 0

DONORS OF MONEY PRIZES.

		£	s.	d.
Bath and West and Southern Counties Society	..	2,821	15	0
Dorchester Local Committee	..	100	0	0
Shire Horse Society	..	5	0	0
Hackney Horse Society (or Medal)	..	5	0	0
Lord Tredegar	..	12	0	0
Devon Cattle Breeders' Society	..	34	0	0
Shorthorn Society	..	20	0	0
The Dairy Shorthorn (Coates's Herd Book) Association	..	10	0	0
Hereford Herd Book Society	..	20	0	0
English Aberdeen-Angus Cattle Association	..	10	0	0
English Jersey Cattle Society	..	51	0	0
English Kerry and Dexter Cattle Society	..	17	0	0
English Guernsey Cattle Society	..	18	0	0
Lincoln Long-Wool Sheep Breeders' Association	..	10	0	0
Southdown Sheep Society	..	17	0	0
Hampshire Down Sheep Breeders' Association	..	10	0	0
Oxford Down Sheep Breeders' Association	..	10	0	0
Dorset Down Sheep Breeders' Association	..	47	0	0
Exmoor Horn Sheep Breeders' Society..	..	10	0	0
Dorset Horn Sheep Breeders' Association	..	51	0	0
British Berkshire Society	..	5	0	0
Large Black Pig Society	..	12	0	0
Dorset County Council Education Committee	..	25	0	0
Somerset Agricultural Instruction Committee	..	20	0	0
Felix Budd, Esq.	..	5	0	0

£3,345 15 0

DONORS OF MEDALS, PLATE, &c.

Shire Horse Society.
 Hunters' Improvement Society.
 Hackney Horse Society.
 Polo and Riding Pony Society.
 Town of Devonport.
 Sussex Herd Book Society.
 Polled Cattle Society.
 English Aberdeen Angus Cattle Association.
 B. de Bertodano, Esq.
 English Kerry and Dexter Cattle Society.
 English Jersey Cattle Society.
 Southdown Sheep Society.
 British Tamworth Pig Breeders' Association.
 National Pig Breeders' Association.
 Bath and West Society.

PRIZES

The Prizes in the Classes marked with an Asterisk are offered by or through the Dorchester Local Committee, and, are confined to residents in the County of Dorset.

	First Prize.	Second Prize.	Thrd Prize
<i>An Animal can be entered in as many Classes as it is eligible for on payment of an additional fee in each Class. No additional fee is, however, payable in the case of those Prizes headed as Champion or Special Prizes.</i>	£	£	£

HORSES.**SHIRE.**

(Registered or eligible for registration in the Shire Horse Society's Stud Book.)

CLASS			
1.—STALLION, foaled before 1906	15	10	3
2.—STALLION, foaled in 1906	15	10	3
3.—COLT, foaled in 1907	15	10	3
4.—MARE and FOAL, or IN-FOAL.	15	10	3
5.—FILLY or GELDING foaled in 1905	10	5	3
6.—FILLY or GELDING, foaled in 1906	10	5	3
7.—FILLY or GELDING, foaled in 1907	10	5	3

Prizes for Horses for 1908.

cx

	First Prize.	Second Prize.	Thrd Prize
HORSES—continued.	£	£	£
SPECIAL PRIZES.			
(Offered by the Shire Horse Society.)			
A Gold Medal, value £10, for Best MARE or FILLY in the Shire Horse Classes, under Condition 48, and to the Breeder of the Winner under the Conditions stated, a prize of	5		
ANY BREED.			
(The Prizes in Class 8 are offered by the Dorchester Local Committee.)			
CLASS			
*8.—Cart Mare or Gelding, the property of a resident in the County of Dorset	10	5	
HUNTERS.			
9.—MARE and FOAL, or IN-FOAL	15	10	3
10.—MARE or GELDING, foaled before 1904	15	10	3
11.—MARE or GELDING, foaled in 1904	15	10	3
12.—FILLY or GELDING, foaled in 1905	15	10	3
13.—FILLY or GELDING, foaled in 1906	10	5	3
14.—FILLY, COLT or GELDING, foaled in 1907	10	5	3
(The Prizes in Classes 15 and 16 are offered by the Dorchester Local Committee.)			
*15.—Mare or Gelding, up to 14 stone, the property of a resident in the County of Dorset	10	5	
*16.—Mare or Gelding, up to 12 stone ditto ditto	10	5	
SPECIAL PRIZES.			
(Offered by the Hunters' Improvement Society, under Conditions 49.)			
A Gold Medal, or £5 and a Bronze Medal, for the Best Hunter Brood Mare actually registered or entered in the Hunter Stud Book, in Class 9, not having previously won the Hunters' Improvement Society's Gold Medal as a Brood Mare in 1908, and which must produce a living foal in 1908, or have her foal at foot. In the first instance a certificate to that effect must be forwarded before the Medal is sent. Only Prize Winners in the Class will be eligible for the Medal.			
A Silver Medal or £1 (at the option of the Winner), for the Best Hunter Mare or Gelding of any age, not having previously won the Society's Silver Medal under this scheme in 1908, bred by a Thoroughbred or Registered Hunter Sire out of a Registered Mare or a Mare qualified for Registration in the next volume, under Conditions 50. Only Prize winners in the Classes will be eligible for the Medal.			

	First Prize.	Second Prize.	Third Prize
HORSES—continued.	£	£	£
HACKNEYS.			
(Registered or eligible for registration in the Hackney Horse Society's Stud Book.)			
CLASS			
17.—MARE and FOAL, or IN-FOAL	15	10	3
18.—MARE or GELDING, foaled before 1904	10	5	3
19.—MARE or GELDING, foaled in 1904 or 1905	10	5	3
20.—FILLY or GELDING, foaled in 1906	10	5	3
21.—FILLY, COLT OR GELDING, foaled in 1907	10	5	3
SPECIAL PRIZE.			
(Offered by the Hackney Horse Society.)			
A Silver Medal for the Best Mare or Filly exhibited in Classes 17 to 21, under Conditions 51.			
PONIES.			
(Of the Prizes offered in Classes 22 to 25, £12 is contributed by Viscount Tredegar.)			
22.—STALLION, not exceeding 14.2 hands, suitable to get Polo or Riding Ponies	6	4	2
23.—MARE, not exceeding 14.2 hands, suitable to breed Polo or Riding Ponies, in-foal, or with foal at foot	6	4	2
24.—FILLY, COLT OR GELDING, foaled in 1905, not exceeding 14.2 hands	6	4	2
25.—FILLY, COLT OR GELDING, foaled in 1906, not exceeding 14.0 hands	6	4	2
SPECIAL PRIZES.			
(Offered by the Polo and Riding Pony Society.)			
A Silver Medal for the best Polo Pony Brood Mare, registered or eligible for registration in the Stud Book.			
A Silver Medal for the best Polo Pony Stallion, registered or eligible for registration in the Stud Book; or best Polo Pony Entire Colt, one, two, or three years old.			
A Silver Medal for the Best Polo and Riding Pony not exceeding 14.2 hands, with Hurlingham certificate or confirmed by that of a qualified Veterinary Surgeon, owned by a Member of the Polo and Riding Pony Society.			
(These Medals are offered subject to Conditions No. 53.)			

	First Prize.	Second Prize.	Thrd Prize
HORSES—continued.	£	£	£
HARNESS.			
ENTRIES CLOSE { With boxes—April 1, or at double fees April 8. Without Boxes—May 8.			
Horses entered in the other Classes can, if eligible, be also entered on payment of an additional fee, in the Harness Classes. Horses entered in the Double Harness and Tandem Classes can also be entered on payment of an additional fee, in the single Harness Classes. Horses entered in the Harness Classes only and not having a box in the Yard, must be in the Show Yard by 2 p.m. on the day on which they compete, and, with the consent of the Stewards, may leave the Yard as soon as the class has been judged.			
CLASS			
26.— MARE or GELDING , not over 14.2 hands, to be driven in harness on the 1st day of the Show	10	5	2
27.— TANDEMS (Mares or Geldings), to be driven in harness on the 1st day of the Show	10	5	2
28.— MARE or GELDING , 15 hands or over, to be driven in harness on the 2nd day of the Show	10	5	2
29.— PAIR OF CARRIAGE HORSES (Mares or Geldings), to be driven in double harness on the 2nd day of the Show	10	5	2
30.— MARE or GELDING , over 14.2 and under 15 hands, to be driven in harness on the 3rd day of the Show	10	5	2
31.— TROTTING . Best MARE , STALLION , or GELDING under 15 hands, for speed and action, to be driven in harness on the 3rd day of the Show	10	5	2
32.— MARE or GELDING , not over 13.2 hands, to be driven in harness on the 4th day of the Show	10	5	2
33.— TROTTING . Best MARE , STALLION or GELDING , 15 hands or over, for speed and action, to be driven in harness on the 4th day of the Show	10	5	2
(Special Prize offered by the Hackney Horse Society.)			
A Prize of £5 or a Gold Medal for the Best Mare or Gelding exhibited in Single Harness in Classes 26 to 33 or 35, subject to Condition 52	5		
(The Prizes in Class 34 are offered by the Dorchester Local Committee.)			
*34.— Mare or Gelding , not exceeding 15 hands, the property of a resident in the County of Dorset, to be driven in Harness on the 5th day of the Show	7	3	
35.— MARE or GELDING , under 15 hands, to be driven in harness on the 5th day of the Show	10	5	2

HORSES— <i>continued.</i>		First Prize.	Second Prize.	Third Prize.
JUMPING.		£	£	£
(For Regulations as to Jumping Classes see Condition 54.)				
ENTRIES CLOSE { With Boxes—April 1, or at double fees April 8. Without Boxes—May 8.				
Horses can be entered in as many Jumping Classes as they are eligible for on payment of the entry fee for each Class, but cannot take more than one First Prize.				
Horses entered in the Jumping Classes only, and not having a box in the Yard, must be in the Show Yard by 2 p.m. on the day on which they compete and, with the consent of the Stewards, may leave the Yard as soon as the Class has been judged.				
CLASS				
36.—MARE or GELDING, 15 hands and over, that shall jump in the best form on the 1st day of the Show.	10	5	2	
37.—MARE or GELDING, under 15 hands, ditto, ditto	10	5	2	
38.—MARE or GELDING, 15.3 hands and over, that shall jump in the best form on the 2nd day of the Show	10	5	2	
39.—MARE or GELDING, under 15.3 hands, ditto, ditto	10	5	2	
40.—MARE or GELDING, 15 hands and over, that shall jump in the best form on the 3rd day of the Show	10	5	2	
41.—MARE or GELDING, under 15 hands, ditto, ditto	10	5	2	
42.—MARE or GELDING, 15.3 hands and over, that shall jump in the best form on the 4th day of the Show	10	5	2	
43.—MARE or GELDING, under 15.3 hands, that shall jump in the best form on the 4th day of the Show	10	5	2	
44.—MARE or GELDING, 15 hands and over, that shall jump in the best form on the 5th day of the Show	10	5	2	
45.—MARE or GELDING, under 15 hands, that shall jump in the best form on the 5th day of the Show	10	5	2	
CATTLE.				
DEVON.				
46.—Cow, in-Milk, calved before 1905	10	5	2	
(The Prizes in Classes 47 and 48 are offered by the Devon Cattle Breeders' Society.)				
47.—Pedigree Dairy Cow, in-Milk, entered in or eligible for Davy's Devon Herd Book.	10	5	2	
48.—Pedigree Dairy Cow, in-Milk, entered in or eligible for Davy's Devon Herd Book, yielding the largest quantity of Milk, to be milked in the ring before judging, under Condition 63.	10	5	2	
49.—HEIFER, in-Milk, calved in 1905	10	5	2	
50.—HEIFER, calved in 1906	10	5	2	
51.—HEIFER, calved in 1907	10	5	2	
52.—BULL, calved in 1904 or 1905	10	5	2	
53.—BULL, calved in 1906	10	5	2	
54.—BULL, calved in 1907	10	5	2	

		First Prize.	Second Prize.	Thrd Prize
		£	£	£
CATTLE—continued.				
SOUTH DEVON.				
CLASS				
55.—	Cow, in-Milk, calved before 1905	10	5	2
56.—	HEIFER, calved in 1905 or 1906	10	5	2
57.—	HEIFER, calved in 1907	10	5	2
58.—	BULL, calved in or before 1905	10	5	2
59.—	BULL, calved in 1906	10	5	2
60.—	BULL, calved in 1907	10	5	2
CHAMPION PRIZE.				
(Offered by the Town of Devonport.)				
"The Devonport Challenge Cup" (value £52 10s.) for the Best Bullock (Bull, Cow or Heifer) in the South Devon Classes. The Cup to be won two years in succession or three years at intervals before becoming the absolute property of the winner.				
SHORTHORN.				
(The 1st Prize in Class 61 is offered by the Shorthorn Society and the 1st Prize in Class 62 by the Dairy Shorthorn (Coates's Herd Book) Association.				
61.—	Pedigree Dairy Cow, in-Milk, four years old and upwards on April 8, eligible for, and entered in Coates's Herd Book, or pedigree sent for such entry previous to the Show, and not having previously won a similar prize offered by the above-named Society or Association in 1908, to be milked in the ring before judging, under Conditions 64	10	5	
62.—	Ditto under four years old ditto ditto	10	5	
63.—	Cow, in-Milk, calved before 1905	10	5	2
64.—	HEIFER, in-Milk, calved in 1905	10	5	2
65.—	HEIFER, calved in 1906	10	5	2
66.—	HEIFER, calved in 1907	10	5	2
67.—	BULL, calved in 1904 or 1905	10	5	2
68.—	BULL, calved in 1906	10	5	2
69.—	BULL, calved in 1907	10	5	2
CHAMPION PRIZE.				
(Offered by the Shorthorn Society.)				
Best Bull in Class 67, 68 or 69, entered in, or eligible for entry in, Coates's Herd Book				
		10		
HEREFORD.				
70.—	Cow, in-Milk, calved before 1905	10	5	2
71.—	HEIFER, in-Milk, calved in 1905	10	5	2
72.—	HEIFER, calved in 1906	10	5	2
73.—	HEIFER, calved in 1907	10	5	2

	First Prize.	Second Prize.	Third Prize.
CATTLE—continued.			
CLASS	£	£	£
74.—BULL, calved in 1904 or 1905	10	5	2
75.—BULL, calved in 1906	10	5	2
76.—BULL, calved in 1907	10	5	2
CHAMPION PRIZES.			
(Offered by the Hereford Herd Book Society.)			
Best Cow or Heifer in Classes 70 to 73	10		
Best Bull in Classes 74 to 76	10		
SUSSEX.			
77.—Cow or HEIFER, in-Milk, calved in or before 1905	10	5	2
78.—HEIFER, calved in 1906 or 1907	10	5	2
79.—BULL, calved in 1905 or 1906	10	5	2
80.—BULL, calved in 1907	10	5	2
SPECIAL PRIZES.			
(Offered by the Sussex Herd Book Society.)			
A Silver Medal for the Best Cow in-Calf or with Calf, or Heifer, entered in the Herd Book, satisfactory evidence being subsequently given that a live calf has been produced, in Class 77 or 78.			
A Silver Medal for the Best Bull, entered in the Herd Book, in Class 79 or 80.			
ABERDEEN-ANGUS.			
(The 1st Prize in Class 81 is offered by the English Aberdeen-Angus Cattle Association.)			
81.—Cow or HEIFER, in-Milk, calved before 1st Dec., 1905	10	5	2
82.—HEIFER, calved on or after 1st Dec., 1905	10	5	2
83.—HEIFER, calved on or after 1st Dec., 1906	10	5	2
84.—BULL, calved before Dec. 1., 1906	10	5	2
85.—BULL, calved on or after Dec. 1., 1906	10	5	2
CHAMPION PRIZES.			
(Offered by the Polled Cattle Society.)			
A Gold Medal for the Best Animal in Classes 81 to 85			
(Offered by the English Aberdeen Angus Cattle Association.)			
A Silver Medal for the Best Animal of opposite Sex to that awarded the Gold Medal in Classes 81 to 85.			
JERSEY.			
86.—Cow, in-Milk, calved before 1905	10	5	2
87.—Cow or HEIFER, in-Milk, calved in 1905	10	5	2

CATTLE— <i>continued.</i>		First Prize.	Second Prize.	Thrd Prize
(The Prizes in Class 88 are offered by the English Jersey Cattle Society.)		£	£	£
88.—Cow or Heifer, in-Milk, entered or eligible for entry in the English Jersey Herd Book, bred by Exhibitor and sired in Great Britain or Ireland		10	6	4
89.—HEIFER, in-Milk, calved in or since 1906		10	5	2
90.—HEIFER, calved in 1907		10	5	2
91.—BULL, calved in 1904 or 1905		10	5	2
92.—BULL, calved in 1906		10	5	2
93.—BULL, calved in 1907		10	5	2
GUERNSEY.				
94.—Cow, in-Milk, calved before 1905		10	5	2
95.—HEIFER, in-Milk, calved in 1905		10	5	2
96.—HEIFER, calved in 1906		10	5	2
97.—HEIFER, calved in 1907		10	5	2
98.—BULL, calved in 1904 or 1905		10	5	2
99.—BULL, calved in 1906		10	5	2
100.—BULL, calved in 1907		10	5	2
KERRY.				
101.—Cow or HEIFER, in-Milk, calved in or before 1905		10	5	2
102.—HEIFER, calved in 1906 or 1907		10	5	2
103.—BULL, calved in 1905, 1906 or 1907		10	5	2
SPECIAL PRIZE.				
(Offered by B. de Bertodano, Esq.)				
For Best Animal in Class 101, 102 or 103, to which the Cup has not previously been awarded.				
The Bertodano Challenge Cup, value 25 Guineas. The Cup to become the property of an Exhibitor winning it three years in succession.				
DEXTER KERRY.				
104.—Cow or HEIFER, in-Milk, calved in or before 1905		10	5	2
105.—HEIFER, calved in 1906 or 1907		10	5	2
106.—BULL, calved in 1905, 1906 or 1907		10	5	2
(The Prizes in Class 107 are offered by the English Kerry and Dexter Cattle Society.)				
107.—Bull, calved in 1907, whose sire and dam are entered in the English Kerry and Dexter or Royal Dublin Society's Herd Book		10	5	2
SPECIAL PRIZE.				
(Offered by the English Kerry and Dexter Cattle Society.)				
The Devonshire Challenge Cup, for the Best Animal in Classes 104 to 107, bred by Exhibitor, and entered in or eligible for the English Kerry and Dexter Herd Book. The Cup to be won by the same Exhibitor with different animals three years in succession before becoming his absolute property.				

	First Prize.	Second Prize.	Third Prize.
CATTLE—continued.			
DAIRY.			
(See Regulation 65).			
<i>Animals entered in the Breed Classes can, if eligible, be entered also, on payment of the additional fee, in Classes 108 to 113.</i>			
(The Prize in Class 108 is offered by the Dorchester Local Committee).			
CLASS			
*108.—Pair of Dairy Cows of any breed or cross (milking qualities to be especially considered), the property of a resident in the County of Dorset.	10		
109.—Cow, in-Milk, of any breed or cross, under 900 lbs. live weight, yielding the largest quantity of milk, of normal character, containing at each time of milking 12 per cent. of total solids, of which not less than 3 per cent. shall be fat, the period of lactation being taken into consideration.	10	5	2
110.—Cow, in-Milk, of any breed or cross, 900 lbs. live weight or over, ditto, ditto.	10	5	2
BUTTER-TEST.			
(See Regulation 65.)			
The Prizes in Classes 111 and 112 are offered by the English Jersey Cattle Society, and entries in them are subject to any conditions issued by that Society previous to the tests.			
111.—Cow, of any breed or cross, under 900 lbs. live weight, obtaining the greatest number of points by the practical test of the separator and churn, judged by the scale of points adopted by the English Jersey Cattle Society.	10	3	2
112.—Cow, of any breed or cross, 900 lbs. live weight or over, ditto, ditto.	10	3	2
Gold, Silver and Bronze Medals are offered for the three Jersey Cows, entered or eligible for entry in the English Jersey Herd Book, obtaining the greatest number of points in the Test, and Certificates of Merit will be granted to Jersey Cows, not being Prize Winners, entered or eligible for entry in the Herd Book, reaching the E.J.C.S. Standard of Merit.			
SPECIAL PRIZE.			
For the best quality of Butter produced by any Jersey Cow awarded a Medal, Prize, or Certificate of Merit in Classes 111 and 112.	1		

	First Prize.	Second Prize.	Thrd Prize
CATTLE—continued.	£	£	£
(The Prizes in Class 113 are offered by the English Guernsey Cattle Society.)			
CLASS			
113.—Guernsey Cow or Heifer, entered in the English Guernsey Cattle Society's Herd Book, or eligible and tendered for entry therein, obtaining the greatest number of points by the practical Test of the Churn, the points to be reckoned on the weight of Butter and an allowance for lactation to be made under the scale settled by the English Guernsey Cattle Society . . .	10	5	3
SHEEP.			
COTSWOLD.			
114.—Shearling RAM	10	5	2
115.—Pair of RAM LAMBS, dropped in 1908	10	5	2
116.—Pen of three Shearling EWES	10	5	2
DEVON LONG-WOOL.			
117.—Shearling RAM	10	5	2
118.—Pair of RAM LAMBS, dropped in 1908	10	5	2
119.—Pen of three Shearling EWES	10	5	2
LINCOLN.			
(The Prizes in Class 120 are offered by the Lincoln Long-Wool Sheep Breeders' Association.)			
120.—Two Shear Ram	7	3	
121.—Shearling RAM	10	5	2
122.—Pair of RAM LAMBS, dropped in 1908	10	5	2
123.—Pen of three Shearling EWES	10	5	2
SOUTHDOWN.			
(The Prizes in Class 124 are offered by the Southdown Sheep Society.)			
124.—Two Shear Ram	10	5	2
125.—Shearling RAM	10	5	2
126.—Pair of RAM LAMBS, dropped in 1908	10	5	2
127.—Pen of three Shearling EWES	10	5	2
SPECIAL PRIZES.			
(Offered by the Southdown Sheep Society, under Condition 69.)			
A Silver Medal for the Best Ram or Ram Lamb in Class 124, 125 or 126.			
A Silver Medal for the Best Pen of Ewes in Class 127.			

	First Prize	Second Prize.	Third Prize.
	£	£	£
SHEEP—continued.			
HAMPSHIRE DOWN.			
CLASS			
128.—Shearling RAM	10	5	2
129.—Pair of RAM LAMBS, dropped in 1908	10	5	2
130.—Pen of three Shearling EWES	10	5	2
(The Prizes in Class 131 are offered by the Hampshire Down Sheep Breeders' Association.)			
131.—Pen of three Ewe Lambs, dropped in 1908	7	3	
SHROPSHIRE.			
132.—Shearling RAM	10	5	2
133.—Pair of RAM LAMBS, dropped in 1908	10	5	2
134.—Pen of three Shearling EWES	10	5	2
OXFORD DOWN.			
135.—Shearling RAM	10	5	2
136.—Pair of RAM LAMBS, dropped in 1908.	10	5	2
137.—Pen of three Shearling EWES	10	5	2
(The Prizes in Class 138 are offered by the Oxford Down Sheep Breeders' Association, and will be withheld until the Animals awarded the prizes are registered in the Flock Book.)			
138.—Pair of Ewe Lambs, dropped in 1908	6	3	1
DORSET DOWN.			
(The 1st Prizes in Classes 139 to 141, and the Prizes in Class 142 are offered by the Dorset Down Sheep Breeders' Association.)			
139.—Shearling RAM	10	5	2
140.—Pair of RAM LAMBS, dropped in 1908	10	5	2
141.—Pen of three Shearling EWES	10	5	2
142.—Pen of three Ewe Lambs, dropped in 1908	10	5	2
EXMOOR HORN.			
(The Prizes in Class 143 are offered by the Exmoor Horn Sheep Breeders' Society.)			
143.—Ram, other than Shearling	5	3	2
144.—Shearling RAM	10	5	2
145.—Pen of three Shearling EWES	10	5	2
DORSET HORN.			
(The Prizes in Classes 146, 150, 151 and 152 are offered by the Dorset Horn Sheep Breeders' Association.)			
146.—Ram, other than a Shearling or Ram Lamb	5	2	
147.—Shearling RAM	10	5	2
148.—Pair of RAM LAMBS, dropped after November 1st, 1907	10	5	2

	First Prize.	Second Prize.	Thrd Prize
SHEEP—continued.			
CLASS	£	£	£
149.—Pen of three Shearling Ewes	10	5	2
150.—Pen of three Chilver Lambs, dropped after November 1st, 1907	10	5	2
151.—Pen of five Chilver Hoggetts, in their wool, not to be trimmed after January 1st, 1908	10	5	2
152.—Pen of five Chilver Lambs, the property of an Ex- hibitor who has never won a prize at the Royal, Bath and West, or Royal Counties Show	5	3	2
PIGS.			
BERKSHIRE.			
153.—BOAR, farrowed in 1905, 1906 or 1907	7	3	2
154.—Pair of BOARS, farrowed in 1908	5	2	1
155.—Breeding Sow, farrowed before 1908	7	3	2
156.—Pair of Breeding Sows, farrowed in 1908	5	2	1
SPECIAL PRIZE.			
(Offered by the British Berkshire Society.)			
Best Boar or Sow in the Berkshire Classes entered in, or eligible for, the Herd Book, whose Sire and Dam, together with the name of its Breeder, are entered in the Catalogue	5		
LARGE BLACK.			
157.—BOAR, farrowed in 1905, 1906 or 1907	7	3	2
158.—Pair of BOARS, farrowed in 1908	5	2	1
159.—Breeding Sow, farrowed before 1908	7	3	2
(The Prizes in Class 160 are offered by the Large Black Pig Society.)			
160.—Breeding Sow, not exceeding 12 months old prior to May 1st, 1908	7	3	2
161.—Pair of Breeding Sows, farrowed in 1908	5	2	1
LARGE WHITE.			
162.—BOAR, farrowed in 1905, 1906 or 1907	7	3	2
163.—Pair of BOARS, farrowed in 1908	5	2	1
164.—Breeding Sow, farrowed before 1908	7	3	2
165.—Pair of Breeding Sows, farrowed in 1908	5	2	1
MIDDLE WHITE.			
166.—BOAR, farrowed in 1905, 1906 or 1907	7	3	2
167.—Pair of BOARS, farrowed in 1908	5	2	1
168.—Breeding Sow, farrowed before 1908	7	3	2
169.—Pair of Breeding Sows, farrowed in 1908	5	2	1

	First Prize.	Second Prize.	Third Prize.
	£	£	£ s.
PIGS—continued.			
TAMWORTH.			
CLASS			
170.—BOAR, farrowed in 1905, 1906, or 1907 . . .	7	3	2
171.—Pair of BOARS, farrowed in 1908 . . .	5	2	1
172.—Breeding Sow, farrowed before 1908 . . .	7	3	2
173.—Pair of Breeding Sows, farrowed in 1908 . . .	5	2	1
SPECIAL PRIZES.			
(Offered by the National Pig Breeders' Association.)			
Three Gold Medals, value £3 3s. each (or £3 3s. in money), for the best animal of each Breed exhibited in the Large White, Middle White, or Tamworth Classes, entered in or eligible for the Herd Book, and the names and numbers of whose sire and dam appear in the Catalogue.			
No animal can win more than one of the Association's Gold Medals in the same year, and in the event of the winning animal being again awarded the Medal at the Royal Agricultural Society's Meeting, the animal awarded the Reserve number would succeed to the prize.			
(Offered by the British Tamworth Pig Breeders' Association.)			
A Challenge Bowl, value £15 15s., for the Best Exhibit in the Tamworth Classes, entered or eligible for entry in the National Pig Breeders' Association Herd Book. The Cup to be won two years in succession or three times altogether before becoming the property of the winner. A Gold Medal, value £3 3s., is also offered, which will become the property of the Exhibitor of the animal awarded the Challenge Cup. The Medal will not be awarded in any year when the Cup is won outright. No Pig or Pen of Pigs can win more than one Cup or Medal given by the Association in any one year.			
ANY BREED.			
(The Prizes in Classes 174 and 175 are offered by the Dorchester Local Committee, and competition in them is confined to residents in the County of Dorset.)			
*174.—Boar, under one year old	3	2	
*175.—Pair of Gelts, under one year old.	3	2	

PRODUCE.

CIDER.

(Open to Growers or Makers.)

First Prize in each of the Classes 176 to 178, a Gold Medal and a Certificate.

Second Prize, ditto, a Silver Medal and a Certificate.

Third Prize ditto, a Bronze Medal and a Certificate.

176.—Cask of not less than 18 and not more than 30 gallons of CIDER, made in 1907.

177.—12 Bottles of CIDER, made in 1907.

178.—12 Bottles of CIDER, made in any year previous to 1907.

(The Competition in Classes 179 and 180 is confined to bona fide Tenant Farmers who have never taken a first prize at any public exhibition.)

179.—Cask of not less than 18 and not more than 30 Gallons of CIDER, made in 1907—1st Prize, Silver Medal; 2nd Prize, Bronze Medal.

180.—12 Bottles of CIDER, made in 1907—1st Prize, Silver Medal; 2nd Prize, Bronze Medal.

CHEESE.

	First Prize.	Second Prize.	Third Prize.	Fourth Prize.
	£ s.	£ s.	£ s.	£ s.
181.—3 Cheddar CHEESES (not less than 56 lbs. each) made in 1907	15 0	10 0	5 0	3 0
182.—3 Cheddar CHEESES (not over 56 lbs. each) made in 1907	8 0	5 0	3 0	2 0
(The Prizes in Class 183 are offered by the Somerset Agricultural Instruction Committee.)				
183.—3 Cheddar Cheeses (not less than 28 lbs. each) of any age, made by a Student who has received instruction in the Somerset County Council or the Western Counties Cheese School	8 0	6 0	4 0	2 0
The Prizes in Classes 184 and 185 are offered by the Dorchester Local Committee and competition in them is confined to residents in the County of Dorset.				
*184.—1 cwt. of Dorset Blue Cheese, of any age	6 0	3 0	1 0	
*185.—3 Dorset Cheddar Cheeses, of any age not less than 56 lbs. each	6 0	3 0	1 0	
186.—3 Single Gloucester or Wilts CHEESES made in 1908	6 0	4 0	2 0	1 0
187.—8 Loaf or other Truckle CHEESES made in 1907	5 0	3 0	2 0	1 0
188.—3 Caerphilly CHEESES, made in 1908	3 0	2 0	1 0	0 10

	First Prize.	Second Prize.	Third Prize.	Fourth Prize.
	£ s.	£ s.	£ s.	£ s.
CHEESE—continued.				
(The Prizes in Class 189 are offered by the Dorset County Council Education Committee and competition is confined to residents in the County of Dorset)				
CLASS				
189.—3 Raw Milk Cheeses of any age	3 0	2 0	1 0	
CREAM CHEESE, BUTTER & CREAM.				
(These Classes are not open to Professional Teachers.)				
190.—3 Cream of other Soft CHEESES	3 0	2 0	1 0	0 10
191.—3 lbs. of Fresh (or very slightly salted) BUTTER	4 0	3 0	2 0	1 0
192.—3 lbs. of Fresh (or very slightly salted) BUTTER, made from scalded cream	4 0	3 0	2 0	1 0
(The Prizes in Class 193 are offered by the Dorchester Local Committee.)				
*193.—3 lbs. of Fresh (or slightly salted) Butter, made from Cows other than Channel Island Breeds, by a resident in the County of Dorset	3 0	2 0		
(The Prizes in Class 194 are given by Felix Budd, Esq., Newport, Mon.)				
194.—3 lbs. of Butter, made up in brick shapes of any pattern, neatness and elegance of style being taken into consideration. Should an Exhibitor make more than one entry in this Class no two of such entries must be alike in pattern	2 10	1 10	1 0	
195.—3 lbs. of BUTTER, to which no salt whatever has been added, to be judged on the last day of Show	4 0	3 0	2 0	1 0
196.—12 lbs. of Salted BUTTER, in a jar or crock, to be delivered to the Secretary 4 weeks before the Show	4 0	3 0	2 0	1 0
(The Prizes in Classes 197 and 198 are offered by the Dorset County Council Education Committee and competition in them is confined to residents in the county of Dorset.)				
197.—Firkin of Butter, not less than 60 lbs. . . .	3 0	1 10		
198.—Basket of not less than 12 lbs. of Fresh Butter	3 0	1 10		
199.—4 half-pounds of Scalded Cream	3 0	2 0	1 0	0 10

	First Prize.	Second Prize.	Third Prize.	Fourth Prize.
	£ s.	£ s.	£ s.	£ s.
BUTTER-MAKING.				
No Winner of a first prize given by this Society for Butter-making during the last 3 years is eligible to compete in Classes 200 to 203.)				
For Conditions and Regulations see Entry Form.)				
CLASS				
200.—For Dairymaids working for wages in a dairy belonging to a tenant farmer. On the 1st day of the Show	4 0	3 0	1 10	1 0
201.—For Men and Women, on the 2nd day of the Show	4 0	3 0	1 10	1 0
202.—For Men and Women, on the 3rd day of the Show	4 0	3 0	1 10	1 0
203.—For Men and Women, on the 4th day of the Show	4 0	3 0	1 10	1 0
The Prizes in Classes 204 and 205 are offered by the Dorset County Council Education Committee and competition in them is confined to persons who have received instruction in Dairy Work under the Dorset County Council.				
204.—For Men and Women, on the 2nd day of the Show	2 10	1 10	1 0	
205.—For Men and Women, on the third day of the Show	2 10	1 10	1 0	
CHAMPION CLASS.				
206.—For winners of first and second prizes in the Butter-making Classes 200 to 205, or at any previous meeting of the Society. On the fifth day of the Show—				
1st Prize, Gold Medal.				
2nd „ Silver Medal.				
3rd „ Bronze Medal.				
MILKING.				
207.—For Men 18 years of age and over	1 10	1 0	0 15	0 10
208.—For Women 18 years of age and over	1 10	1 0	0 15	0 10
209.—For Boys and Girls under 18 years of age	1 10	1 0	0 15	0 10

	First Prize.	Second Prize.	Third Prize.	Fourth Prize.
SHOEING.	£ s.	£ s.	£ s.	£ s.
CLASS				
210.—For NAG HORSE SHOEING, by Smiths over 25 years of age who have not previously won the First Prize in a corresponding Class at one of the Society's meetings, or a Champion Prize at any other Society's Show, on the 3rd day of the Show . . .	4 0	3 0	2 0	1 0
211.—For CART HORSE SHOEING, by Smiths over 25 years of age, ditto, ditto, on the 4th day of the Show	4 0	3 0	2 0	1 0
212.—For NAG HORSE SHOEING by Smiths not over 25 years of age (Competitors in this Class will be required to declare their age at the time of entry), on the 5th day of the Show	4 0	3 0	1 0	0 0
213.—For SHOE MAKING or TURNING, the patterns and descriptions of the Shoes to be supplied by the Judge, on the 5th day of the Show	4 0	3 0	2 0	1 0

CONDITIONS AND REGULATIONS FOR LIVE STOCK.

GENERAL.

ENTRIES.

1. The following are the Fees payable for Stock entries made on or before April 1. After that date and up to April 8, entries (except in the Harness and Jumping Classes) will only be received on payment, in each case, of double the fee named below. *Exhibitors are requested to note that no exception can be made to this.* The entry fee is not returnable to an Exhibitor who enters an Animal in a Class for which it is ineligible, or for entries that are withdrawn after the date of entry has expired.

	MEMBERS.	NON-MEMBERS.
	(see Reg. 5 below)	
Horses other than in the Harness or Jumping Classes (see Reg. 2 below) for each Entry, including Horse Box	15s.	30s.
Cattle, Sheep and Pigs for each Entry	10s.	20s.

For particulars as to fees in the Produce, Poultry, Butter-Making, Milking and Shoeing Classes, see Entry forms.

2. Animals entered in the Harness and Jumping Classes, and not having a box in the Yard, must be in the Yard by 2 p.m. on the day on which they compete, and, with the consent of the Stewards, may leave the Yard as soon as they have been judged. Entries in the Harness and Jumping Classes, if no Horse Box is required, must reach the Secretary not later than May 8. If a Box is required the entry must reach the Secretary on or before April 1, or, at double fees, by April 8. The Entry Fees are:—

	MEMBERS.	NON-MEMBERS.
Without Horse Box, for each Entry	5s.	10s.
With Horse Box, do.	15s.	30s.

3. No Exhibitor can make more than three entries in any one Class of Horses, Cattle, Sheep or Pigs, except in the Harness or Jumping Classes.

4. No Entry will be received unless the fee accompanies it, and (if the Exhibitor is a Member of the Society) the subscription for the year, unless previously paid, together with any arrears that may be due.

5. The privilege of entering at Members' fees is strictly limited to members of the Society, elected on or before January 28, 1908, and subscribing not less than £1 annually.

6. Where a Prize is offered for a *pair* or *pen* of Animals, single entry-fees only are payable for each *pair* or *pen*, and only one entry-form must be used.

7. All Entries must be made on the printed forms to be obtained of the Secretary (Thos. F. Plowman, 3, Pierrepont Street, Bath), and, in applying for Forms, Exhibitors are requested to state how many entries they wish to make of either Horses, Cattle, Sheep, Pigs, &c., as each Stock entry must be made on a separate form.

8. Every Exhibitor or Competitor is requested to carefully examine the List of Prizes and Conditions, as he will be held responsible for the correctness of his Certificate of Entry. An Exhibitor omitting to give information asked for on the Entry Form, with regard to the age, breeder, name, colour, sire, dam, &c., of an animal will be liable to have his entry disqualified.

9. If an Exhibitor or Competitor fails, when called upon by the Stewards or Council, to prove the correctness of his Certificate of Entry to their satisfaction, the Entry may be disqualified, and any award made to it cancelled.

10. An Exhibitor who has made, in due time, an entry of Horses, Cattle, Sheep or Pigs, in a particular class, will be permitted, up to Saturday, April 25, to withdraw the entry of such animal, and to substitute for it the entry of another animal in the same class, on payment of the difference, if any, between the amount of the entry fee originally paid for the animal withdrawn, and the post entry fee. When, after entry, an animal dies, the exhibitor shall be permitted to substitute another entry for it, in the same class, without payment of any further fee, upon affording evidence of death and furnishing particulars of the substituted entry in time for the alteration to be made in the published catalogue.

11. An animal can be entered in as many Classes as it is eligible for on payment of an additional fee in each Class. No additional fee is, however, payable in the case of Special Prizes for exhibits already entered in any particular class.

12. Every exhibit must be the *bona fide* property of the Exhibitor both at the time of entry and on the first day of the Exhibition.

SHOW YARD.

13. The Yard will be open for the reception of Horses (see Regulation 2 for Harness and Jumping Horses), Cattle, Sheep and Pigs, on Monday and Tuesday, May 25 and 26, from 7 A.M. to 6 P.M. Horses will also be received from 6 to 8 o'clock on the morning of the first day of Show, but all other Stock Entries must be in the Yard the previous day. A label denoting the number of each entry will be sent by the Secretary and must be securely affixed to the head of the Animal. The carriage of exhibits must in all cases be paid by the Exhibitor. No exhibit subject to charges will be received by the Officers of the Society.

14. If an animal is brought into the Show Yard without having been entered for exhibition, the owner shall be liable to a fine of £2 and to the forfeiture of any prize awarded to him or her.

15. All Live Stock (see Conditions 2, 39 and 40 for exceptions with regard to Horses) must remain in their places in the Show Yard until after 6 o'clock in the afternoon of the last day of the Show, and shall under no circumstances be taken out of their places in the interval without the special permission of the Stewards.

16. During the time the Show is open to the public no rug or cloth shall be hung up so as to conceal any animal in a horse-box or stall, except with the special permission of the Steward of the department.

17. All Exhibits and all persons in charge of the same, will be subject to the Orders, Regulations and Rules of the Society, and the Stewards shall have the power to remove from the Yard the Stock or property belonging to, and to cancel the admission ticket of, any Exhibitor who shall infringe any of the Regulations or Conditions of the Meeting, or who shall refuse to comply with any instructions given by the Stewards, without any responsibility attaching to the Stewards or the Society in consequence of such removal.

18. No animal shall be decorated with colours other than the Society's Prize Rosettes.

19. No person shall be allowed to fix any placard, or to take down any official placard, in the Yard, without the written permission of the Stewards.

20. All persons in charge of Exhibits will be subject to the orders of the Stewards, and will be required to parade or exhibit the animals in their charge at such times as may be directed by the Stewards. Servants must be in attendance each day during the Show at least a quarter of an hour before the time appointed for exhibiting the animals under their charge in the Show rings. Servants in charge of animals must see that the animals boxes or stalls are kept clean. No oil or cooking stove of any description must be lighted in the Horse Boxes and any one found offending in this respect will be dealt with in accordance with Regulation 33. Owners of animals exhibited will be held responsible for the behaviour of their Servants, and for the consequences of any misconduct of such Servants.

21. Servants in charge of Stock at night must, if they leave the yard, return before 10 p.m., or they will not be admitted.

22. Hay or green food and straw will be supplied by the Society free of expense to exhibitors at the Forage Stores in the Show Yard. Servants must apply at the Forage Stores for their Forage Tickets after they have brought their animals into the Yard. Corn, meal, and cake can be obtained in the Show Yard at fixed prices.

NOTE.—For the convenience of Exhibitors wishing to sell their animals, a Register will be kept at the Secretary's Office, in which they may enter the prices.

TICKETS.

23. Each Exhibitor of Live Stock will have a Free Ticket of admission to the Show Yard sent to him, except in the case of a Member of the Society, who will receive his Member's Ticket in lieu of an Exhibitor's Ticket. Tickets for the use of Servants in charge of Live Stock remaining in the Yard will also be sent, and the Exhibitor will be held responsible for the proper use of such Tickets. In the case of animals not having a box in the Yard, a Servant's Ticket will not be required as the official label will admit the Driver or Rider, Horse and Vehicle into the Yard. In case of transfer or other improper use of a Ticket the Exhibitor will be required to pay a fine of £1 for each case. Exhibitors will be held responsible for the attendance at each Parade of as many Servants as Tickets have been issued for.

RESPONSIBILITY.

24. Neither the Society nor any of its Officers or Servants shall be in any way responsible or accountable for anything that may happen (from any cause or circumstance whatever) to Exhibitors or their Servants, or to any animal or article exhibited, or property brought into the Show Yard, or otherwise for anything else in connection with, or arising out of, or attributable to, the Society's Show, or these or any other Conditions or Regulations prescribed by the Society in relation thereto.

25. Each Exhibitor shall be solely responsible for any consequential or other loss, injury, or damage done to, or occasioned by, or arising from, any animal or article exhibited by him, and shall indemnify the Society against all legal or other proceedings in regard thereto.

26. The Society, its Officers and Servants, will not be liable for any errors or mistakes that may happen in placing or penning the Stock or Articles to be exhibited, but the Servants in charge of the same must see that they are placed or penned according to their entries.

DISQUALIFICATIONS.

27. The use of resin, soap, or other substances designed to give an artificial appearance; cording; or any other improper means adopted in showing an animal in the Agricultural Horse Classes will be regarded as a disqualification.

28. No animal which has been exhibited as Fat Stock at any Show shall be eligible to compete for the Prizes offered in this Prize Sheet.

29. An animal having any unsoundness likely to be transmitted to its progeny shall be disqualified thereby from receiving any Prize offered by or through the Society.

30. If it shall be proved to the satisfaction of the Stewards or Council that an Exhibitor or Competitor has knowingly signed an incorrect Certificate, or knowingly given an incorrect Pedigree of any animal, or has attempted to enter an animal or other exhibit or to obtain a Prize by any other unfair means at this or any other Agricultural Society's Meetings, or is under exclusion from any Breed Society for fraudulent practices, the Council shall have the power to cancel all awards made to such Exhibitor or Competitor, to disqualify him or her from exhibiting or competing at future Meetings of the Society, and to inform other Agricultural Associations of their action in this respect.

PENALTIES.

31. As the non-exhibition of animals entered for the Show causes unnecessary preparations and expense, and disarranges the Show Yard, any person entering Stock, and failing to exhibit the same, shall pay a penalty of 10s. for each entry, unless a Certificate, under the hand of the Exhibitor or his authorized agent, be lodged with the Secretary of the Society, before the day of exhibition, certifying that such non-exhibition is caused either by—(1) the death of the animal or animals; or (2) contagious or infectious disease (confirmed by the explanatory certificate of a Veterinary Surgeon); or (3) by its becoming ineligible for the Class in which it has been entered.

32. Every Exhibitor will be required to undertake to forfeit and pay to the Society the sum of £20, as and for liquidated damages, if any animal which he exhibits be, to his knowledge, suffering from any contagious or infectious disease, and the Stewards are empowered to prevent the entry of any diseased animal into the Yard, or to have it removed therefrom.

33. Any infringement of any of these or any other prescribed Regulations or Conditions will subject the Exhibitor to a fine of £1 by the Stewards, and to the forfeiture, by order of the Council, of any prize to which he may be entitled (in addition to all other consequences attaching to such infringement). The Council reserves to itself the right to inform other Agricultural Associations of any decision it may come to with respect to an Exhibitor.

AWARDS.

34. The Society reserves to itself the right to withhold any prize, if, in the opinion of the Stewards, the conditions and regulations have not been properly complied with.

35. **No Second Prize will be given in any Class of Stock unless there are three entries, no Third Prize unless there are six entries, and no Fourth Prize unless there are nine entries.**

36. Only the signed awards of the Judges are accepted by the Society as evidence that a prize has been awarded, and the production of the prize card or the rosette by an Exhibitor will not entitle him to the prize.

37. The certificate of the Veterinary Inspector, whether as to age or soundness, shall be required only in cases where the Judges are in doubt, or where the Stewards may consider it necessary. (See also Regulation 47 with reference to Stallions and Mares.) The decision of the Inspector in such cases shall be final and conclusive; and in case it shall be against the animal to which a Prize has been awarded, such animal shall be disqualified from receiving such Prize.

PROTESTS.

38. Any Exhibitor wishing to lodge a protest having reference to Live Stock exhibited at this meeting must make the same in writing on a form to be obtained from the Secretary, and deposit with him the sum of £3. If on investigation the protest is not sustained to the satisfaction of the Stewards, the sum thus deposited shall, at the discretion of the Council, be forfeited to the funds of the Society. All protests (except in the Harness or Jumping Classes) must be delivered at the Secretary's Office in the Showyard, on the day on which the award is made, and no protest will be **SURSEQUENTLY** received, unless a satisfactory reason be assigned for the delay. Any protest against an award in the Harness or Jumping Classes must be made to the Steward in the ring immediately after the judging of the class to which it refers, and a deposit of £3 must, at the same time, be handed to the Steward. The Stewards will consider such protests at 11 o'clock on the following day at the Secretary's Office, at which time and place any person making a protest must attend or be represented by his authorised agent. The decision of the Stewards shall be final.

APPLYING TO CERTAIN CLASSES ONLY.

HORSES.

39. Horses can be removed from the Yard at night on deposit by the Exhibitor of £3 at the Finance Office, which sum will be forfeited if the Horse does not return at 8 A.M. each day during the Exhibition. This regulation does not apply to Animals not having a box in the Yard entered in the Harness and Jumping Classes only.

40. The Stallions in Classes 1, 2 and 22 can be taken out of the Yard after the parade of Horses on the third day of the Show.

41. Exhibitors must provide saddles for Horses in Classes 10, 11 and 18, and in Classes 36 to 45, as they are to be ridden; and vehicles and harness for those in Classes 26 to 35, which are to be driven.

42. No Horse, unless a Foal, will be admitted into the ring without a proper bit.

43. The Prizes for Stallions in Classes 1 and 22 will be withheld until a certificate from the owner is delivered to the Secretary that the Horse has served at least 10 Mares during the current season.

44. All Foals must be the offspring of the Mares with which they are exhibited, and the name of the Sire of the Foal must be stated on the certificate of entry.

45. Mares entered as in-Foal shall, except as otherwise stated, hereafter be certified to have produced a living Foal before August 1st of the year of the Show. If the required certificate, which must be on a form obtainable from the Secretary, is not received by September 30, 1908, the prize awarded will be forfeited.

46. Horses may, at the discretion of the Stewards, be measured, and the measurement shall be taken in the shoes worn by the entry at the time of judging.

47. All Stallions and Mares (yearlings and foals excepted) to which prizes have been awarded in the breeding classes shall be examined by the Society's Veterinary Inspector, and unless pronounced free from indications of hereditary disease shall be ineligible to receive the prize. The owner of an Animal rejected under this Regulation may, upon his application in writing to the Secretary, be furnished with a copy of the Veterinary Certificate.

48. The following special conditions apply only to the Prizes offered by the Shire Horse Society, viz.: the owner of the animal entered to have been a Member of the Bath and West and Southern Counties Society for not less than six months previous to April 8, 1908; a Mare five years old, or upwards, must produce a living Foal in the current year, or have had a living Foal in the preceding year; in the case of in-Foal Mares a certificate of foaling must be lodged with the Secretary of the Shire Horse Society before the medal will be despatched. No animal to compete which has won the Shire Horse Society's Gold Medal during the current year, the Royal and London Shows being excepted; the winning animal to be entered, or eligible for entry, in the Shire Horse Society's Stud Book; and a certificate that she is free from hereditary disease to be lodged with the Secretary of the Shire Horse Society, the Veterinary examination to be made on the ground by the Veterinary Inspector appointed for the Show. A prize of £5 will also be awarded to the breeder of the animal winning the Medal, provided that he is a member of the Shire Horse Society, and that the Dam is a Mare registered in the Shire Horse Stud Book. All awards must be completed within six months of the date upon which the Medal was awarded or they will be void.

49. The following special conditions apply only to the Prize offered by the Hunters' Improvement Society for Hunter Brood Mares, viz.:—The Mare awarded the Medal must possess a certificate of soundness from hereditary disease, signed by the Bath and West Society's appointed Veterinary Inspector, who must be a member of the Royal College of Veterinary Surgeons, after his examination of the animal on the Show Ground.

50. The following special conditions apply only to the Prize offered by the Hunters' Improvement Society for best Mare or Gelding of any age. The Hunter awarded the medal must possess a certificate of soundness from hereditary disease, signed by the Bath and West Society's Veterinary Inspector, who must

be a member of the Royal College of Veterinary Surgeons, after his examination of the animal on the Show Ground; if a Mare is selected both she and her Dam, if not already entered, must be registered within a month of the award in the Hunter Stud Book; if a Gelding is selected the Dam must comply with such conditions before the award will be confirmed. No animal may take more than one of these medals in 1908.

51. The following special conditions apply only to the Silver Medal offered by the Hackney Horse Society for Hackney Mare or Filly:—

1. No animal to be awarded a Silver Medal which has in the same year taken one of the Hackney Horse Society's £10 Prizes or Gold Medals (The Royal, London Hackney, and International (Olympia) Shows included).
2. No animal to be eligible to take more than one Silver Medal during any one year.
3. If not already registered in the Stud Book, the entry of the winner must be duly lodged with the Hackney Horse Society, and if not completed before the expiration of one month after the date of the Show the Medal shall pass to the reserve number.
4. A certificate of soundness from hereditary disease, **signed by the Local Society's appointed Veterinary Inspector after his examination on the Show Ground**, must be lodged with the Secretary of the Hackney Horse Society.

NOTE.—Horses in Saddle and Harness Classes are eligible to compete for the Silver Medal, for which they must be exhibited in hand.

52. The following special conditions apply only to the Prize of £5 or Gold Medal offered by the Hackney Horse Society in the Harness Classes:—All horses competing for the Prize or Medal must be *by a Registered Hackney Sire*. A certificate signed by the Breeder of the animal must be forwarded to the Secretary of the Hackney Horse Society before the Prize or Medal is despatched. Each animal must be examined by a qualified veterinary surgeon on the Show Ground, and a certificate of soundness must be supplied. The Prize or Medal must be open to all Classes, and not confined to local competition, and the name and number of the sire, and the name and address of the breeder of each animal, should appear in the catalogue. No animal can take more than one of the Harness Prizes or Medals in any one year (the Royal, London Hackney, and International (Olympia) Shows being excepted), but an animal which has been awarded one of the Society's Prizes or Medals under other schemes is eligible.

NOTE.—The winner of a Silver Harness Medal is not debarred from subsequent competition for a Gold Harness Medal in the same year.

53. The following special conditions apply only to the Medals offered by the Polo and Riding Pony Society. Height of Pony not to exceed 14.2, as confirmed by Hurlingham Certificate or that of a qualified Veterinary Surgeon. Ponies having previously won one of the Polo and Riding Pony Society's Gold or Silver Medals during the current year not to be eligible to compete. No Pony is qualified to take more than one Silver Medal during any one year. The entry of the Winner must, if not already entered in the Supplement or Registered in the Stud Book, be duly lodged with the Polo and Riding Pony Society before the Medals will be despatched. All Brood Mares to have foal-at-foot or be due to foal in 1908, or if they have foaled in 1908 and the foal has died, a veterinary certificate to the effect that the foal was born alive to be provided. All foals to be by a Thoroughbred, Arab, Registered or Entered Sire.

54. The following special conditions apply to Horses entered in the Jumping Competitions:—The jumps may consist of single hurdle, gate, double hurdle, bank, wall and water jump, at the discretion of the Judge and Stewards. Each horse competing shall have its catalogue number affixed to its breast in such a way that it may be easily seen by the general public. Each horse competing shall be ridden at the fences in the order announced by the Stewards. In case of a horse refusing his fence it shall be allowed two further trials, and *no more*. No change of rider shall take place during the competition. The Judge may take into consideration the style in which the fences are jumped, as well as the height and breadth, and his decision shall be final.

CATTLE.

55. All cattle must be properly secured to the satisfaction of the Officers of the Society, on being brought to the gate of the Yard, or they will not be admitted.

56. All Bulls must have a ring or clamp attached to the nose, and in the aged Classes must be provided with a strong chain, and be led with a proper stick.

57. All cattle will be required to be paraded in the ring at least once a day at the discretion of the Stewards.

58. No Bull calved before January 1st, 1906, or in the Aberdeen Angus Classes before December 1st, 1905, will be eligible to receive a Prize until certified to have served not less than six different Cows (or Heifers), previous to June 1st, 1908, and to be the sire of live calves dropped in the year 1908, or in the Aberdeen Angus Classes after December 1, 1907.

59. No Cow or Heifer, entered as in-milk, will be eligible to receive a Prize until certified to have had a living calf within the fifteen months preceding the date of Show, or that the Calf, if dead, was born at the proper time.

60. Every Cow or Heifer in-milk shall be milked dry in the Show Yard at 7.30 p.m. on the evening preceding the day of judging, in the presence of an officer of the Society appointed for the purpose.

61. Any animal in the Cattle Classes found to be artificially coloured will be disqualified.

62. Any person selling milk in the Yard, except in the place appointed by the Stewards, will be fined 5s. for each infringement of this Regulation.

63.—The following conditions apply only to the prizes offered for Devon Milking Cows:—The Cows entered will be clean milked on the evening preceding the opening of the Show to the satisfaction of the Stewards and will be again milked in the ring on the first morning of the Show in the presence of the Judge, who shall see the Milk weighed.

64. The following conditions apply only to the prizes offered for Pedigree Shorthorn Dairy Cows:—The Cows and Heifers entered will be clean milked out on the evening preceding the opening of the Show to the satisfaction of the Stewards and will be again milked in the ring on the first morning of the Show in the presence of the Judge, who shall see the Milk weighed, and any animal not yielding up to the following standard will not be awarded a prize:—

		If she has calved within three calendar months of the first day of the Show.	If she has calved more than three calendar months before the first day of the Show.
Cows, 4 years and upwards, <i>not less than</i>	..	25 lbs. of Milk	20 lbs. of Milk
Cows, 3 years old and under 4 " "	..	20 " " "	15 " " "
Heifers, under 3 years old " "	..	15 " " "	10 " " "

65. The following condition applies to animals entered in the Butter and Milk Test Classes:—The date of last calving must be given on the entry form and, when an animal calves between the date of entry and that of the Show, notice of such calving must be sent to the Secretary, or the animal may be disqualified.

66. Except in the Local and Dairy Classes, every animal entered for competition must be entered, or certified as eligible to be entered, in the Herd Book of its Breed, where such Herd Book exists and has been in existence for not less than seven years. Where an animal is entered by the Exhibitor as eligible for entry in the Herd Book of its breed, proof of such eligibility must be furnished to the Secretary at the time of making the entry.

SHEEP.

67. All Sheep (except those in the Mountain classes, which must be shown in their wool or where otherwise mentioned) over one year old must have been

really and fairly shorn bare on or after the 1st of March, 1908. If the Judges consider that a Sheep has not been shorn bare they will report this to the Stewards with a view to its disqualification.

68. Each pen of Ewes must be of the same Flock.

69. The following conditions apply to the special prizes offered by the South-down Sheep Society:—The sheep competing must be entered or eligible for entry in the Flock Book. In the Classes for pairs of ram lambs, exhibitors will have the privilege of competing for the medal with any one of their exhibits.

70. Except in the Local Classes, every animal entered for competition must be entered or certified as eligible to be entered, in the Flock Book of its Breed, where such Flock Book exists and has been in existence for not less than seven years. Where an animal is entered by the Exhibitor as eligible for entry in the Flock Book of its breed, proof of such eligibility must be furnished to the Secretary at the time of making the entry.

Pigs.

71. The pair of Pigs in each pen must be of the same litter.

72. All Sows farrowed before 1908 shall be certified to have had a litter of live Pigs within six months preceding the first day of exhibition, or to be in-pig at the time of entering, so as to produce a litter of Pigs, farrowed at their proper time, before the 1st of September following. In the case of in-Pig Sows the Prize will be withheld until the Exhibitor shall have furnished the Secretary with a certificate of farrowing as above. If the required Certificate, which must be on a form obtainable from the Secretary, is not received on or before the 15th September following, the Prize awarded will be forfeited.

73. All Pigs exhibited with a Sow shall be her own produce, of the same litter, and not exceeding two months old at the time of the Show.

74. No Sow above 18 months old that has not produced a litter of live Pigs shall be eligible to compete in any of the Classes.

75. Any animal in the Pig Classes found to be artificially coloured or oiled will be disqualified.

76. Should any question arise as to the age of any exhibit in the Pig classes, the Stewards shall, at the request of the Judge, have the state of their Dentition examined by a competent authority. If the state of the Dentition shall indicate that the age of any of the Pigs does not agree with the Dentition Test, the Stewards shall report the same to the Council, who shall have power to disqualify such Pig or Pigs. The following is the state of Dentition in Pigs which will be considered as indicating that they exceed the ages specified below:—Six Months: Pigs having their corner permanent incisors cut will be considered as exceeding this age. Nine months: Pigs having their permanent tusks more than half up, will be considered as exceeding this age. Twelve Months: Pigs having their central permanent incisors up, and any of the three first permanent molars cut, will be considered as exceeding this age. Fifteen Months: Pigs having their lateral temporary incisors shed, and the permanents appearing, will be considered as exceeding this age. Eighteen Months: Pigs having their lateral permanent incisors fully up will be considered as exceeding this age.

CIDER, DAIRY PRODUCE, POULTRY, BUTTER-MAKING, MILKING, AND SHOEING COMPETITIONS.

For Conditions and Regulations see entry forms.

ADJUDICATION OF PRIZES.

77. The Judges are instructed as follows, and entries are received subject to this:

a. Not to award any Prize or Commendation unless the entry possesses sufficient merit.

b. Not to award a Prize to any Horse or Mare, unless it is free from unsoundness likely to be transmitted to its progeny; or if a Gelding, unless free from unsoundness; in either case, an accident having temporary consequences only excepted.

c. In awarding Prizes to Cattle, Sheep and Pigs, to decide according to the relative merits of the animals for Breeding purposes, and not to take into consideration their present value to the butcher.

d. To make the milking capacity and form of udder one of the chief points in awarding prizes to cows and heifers in Milk.

e. To draw the attention of the Stewards to any exhibit that has been improperly prepared for exhibition, or is wrongly entered.

f. To report to the Stewards for disqualification any sheep which in their opinion has not been shorn bare.

g. To give in a "RESERVE NUMBER" in each Class, indicating the animal or exhibit which in their opinion possesses sufficient merit for the Prize, if the animal or exhibit to which the Prize is awarded should become disqualified. Should the "Reserved Number" succeed to a prize, and be itself disqualified, the prize will be forfeited.

h. Immediately after the Judging to deliver to the Stewards on the special sheets, to be obtained at the Secretary's Office, their awards, signed, stating the numbers to which the Prizes are adjudged, and noting all disqualifications.

78. Should any question arise upon which the Judges may desire a further opinion, the Stewards shall provide them with a Referee.

PAYMENT OF PRIZES.

79. Cheques for the Prizes awarded (except where further qualification of an animal is required) will be drawn at the meeting of the Finance Committee held in July, 1908, and will then be forwarded by post to the Exhibitors to whom they have been awarded.

INTERPRETATION OF CONDITIONS.

80. The Society reserves to itself by its Council the sole and absolute right to interpret these or any other prescribed conditions and regulations, or Prize Sheets, and to arbitrarily settle and determine all matters, questions or differences in regard thereto, or otherwise arising out of or connected with or incident to the Show. Also to refuse and to cancel any entries, disqualify Exhibitors, prohibit exhibition of entries, vary or cancel awards of prizes or reserved numbers, and relax conditions, as the Society may deem expedient.

POULTRY.

The Birds in Classes 2 to 25 and 28 to 51 must have been hatched previous to January, 1, 1908.

CLASS

	First Prize.	Second Prize.	Third Prize.
	£ s.	£ s.	£ s.
1.—ANY DISTINCT BREED—Cock and 4 Hens, bred in 1906 or 1907, the property of one Exhibitor, mated for breeding	5 0	3 0	2 0
2.—COCHIN—Cock	1 0	0 15	0 10
3.—Ditto—Hen	1 0	0 15	0 10
4.—BRAHMA—Cock	1 0	0 15	0 10
5.—Ditto—Hen	1 0	0 15	0 10
6.—PLYMOUTH ROCK—Cock	1 0	0 15	0 10
7.—Ditto—Hen	1 0	0 15	0 10
8.—ORPINGTON (Buff)—Cock	1 0	0 15	0 10
9.—Ditto—Hen	1 0	0 15	0 10
10.—Ditto—(Any other variety)—Cock	1 0	0 15	0 10
11.—Ditto—Hen	1 0	0 15	0 10
12.—MINORCA—Cock	1 0	0 15	0 10
13.—Ditto—Hen	1 0	0 15	0 10
14.—ANCONA—Cock	1 0	0 15	0 10
15.—Ditto—Hen	1 0	0 15	0 10
16.—SUSSEX—Cock	1 0	0 15	0 10
17.—Ditto—Hen	1 0	0 15	0 10
18.—DORKING (Coloured)—Cock	1 0	0 15	0 10
19.—Ditto—Hen	1 0	0 15	0 10
20.—DORKING (Silver Grey)—Cock	1 0	0 15	0 10
21.—Ditto—Hen	1 0	0 15	0 10
22.—DORKING (Any other variety)—Cock	1 0	0 15	0 10
23.—Ditto—Hen	1 0	0 15	0 10
24.—FAVEROLLES—Cock	1 0	0 15	0 10
25.—Ditto—Hen	1 0	0 15	0 10
In Classes 26 and 27 the birds must have been hatched after December 31, 1907, and must not have moulted all the chicken flight feathers of the wing.			
26.—COCHIN, BRAHMA, PLYMOUTH ROCK, ORPINGTON, LANGSHAN, SUSSEX or DORKING—Cockerel	1 0	0 15	0 10
27.—Ditto—Pullet	1 0	0 15	0 10
28.—LANGSHAN—Cock	1 0	0 15	0 10
29.—Ditto—Hen	1 0	0 15	0 10
30.—WYANDOTTE—(Silver or Gold Laced)—Cock	1 0	0 15	0 10
31.—Ditto—Hen	1 0	0 15	0 10
32.—Ditto (White)—Cock	1 0	0 15	0 10
33.—Ditto—Hen	1 0	0 15	0 10
34.—Ditto—(Any other variety)—Cock	1 0	0 15	0 10
35.—Ditto—Hen	1 0	0 15	0 10
36.—LEGHORN (White)—Cock	1 0	0 15	0 10
37.—Ditto—Hen	1 0	0 15	0 10
38.—Ditto—(Any other variety)—Cock	1 0	0 15	0 10
39.—Ditto—Hen	1 0	0 15	0 10

POULTRY— <i>continued.</i>	First Prize.	Second Prize.	Third Prize.
	£ s.	£ s.	£ s.
CLASS			
40.—HAMBURG—Cock	1 0	0 15	0 10
41.—Ditto—Hen	1 0	0 15	0 10
42.—OLD ENGLISH GAME—Cock	1 0	0 15	0 10
43.—Ditto—Hen	1 0	0 15	0 10
44.—Indian GAME—Cock	1 0	0 15	0 10
45.—Ditto—Hen	1 0	0 15	0 10
46.—MALAY—Cock	1 0	0 15	0 10
47.—Ditto—Hen	1 0	0 15	0 10
48.—FRENCH (excluding Faverolles)—Cock	1 0	0 15	0 10
49.—Ditto—Hen	1 0	0 15	0 10
50.—ANY OTHER DISTINCT BREED (not previously mentioned)—Cock	1 0	0 15	0 10
51.—Ditto—Hen	1 0	0 15	0 10

In Classes 52 to 59 the birds must have been hatched after December 31, 1907, and must not have moulted all the chicken flight feathers of the wing.)

52.—MINORCA, ANCONA, WYANDOTTE, LEGHORN, HAMBURG, FAVEROLLES or FRENCH—Cockerel	1 0	0 15	0 10
53.—Ditto—Pullet	1 0	0 15	0 10
54.—GAME, MALAY or any other Distinct Breed (not previously mentioned)—Cockerel	1 0	0 15	0 10
55.—Ditto—Pullet	1 0	0 15	0 10

LIVE TABLE POULTRY.

56.—Pair of Cockerels of any Pure Breed	1 0	0 15	0 10
57.—Ditto—Pullets " "	1 0	0 15	0 10
58.—Pair of Cross-Bred Cockerels	1 0	0 15	0 10
59.—Ditto—Pullets	1 0	0 15	0 10

SELLING CLASSES.

60.—ANY DISTINCT BREED—Cock or Cockerel (<i>price not to exceed £1 1s.</i>)	1 0	0 15	0 10
61.—ANY DISTINCT BREED—Hen or Pullet (<i>price not to exceed £1 1s.</i>)	1 0	0 15	0 10

DUCKS, GEESE & TURKEYS.

62.—DRAKE or DUCK (Aylesbury)	1 0	0 15	0 10
63.—" " (Rouen)	1 0	0 15	0 10
64.—" " (Pekin)	1 0	0 15	0 10
65.—GANDER or GOOSE	1 0	0 15	0 10
66.—TURKEY—Cock or Hen	1 0	0 15	0 10

	First Prize.	Second Prize.	Third Prize.
	£ s.	£ s.	£ s.
POULTRY—continued.			
DEAD TABLE POULTRY.			
<i>(To be forwarded alive, and to be killed and plucked by a Poulterer acting for the Society. See Regulation 12.)</i>			
(In Classes 67 to 71 the birds must have been hatched after December 31, 1907, and must not have moulted all the chicken flight feathers of the wing.)			
CLASS			
67.—Pair of Cockerels of any Pure Breed	1 0	0 15	0 10
68.—Ditto—Pullets " "	1 0	0 15	0 10
69.—Pair of Cross-Bred Cockerels	1 0	0 15	0 10
70.—Ditto—Pullets	1 0	0 15	0 10
71.—Pair of Ducklings	1 0	0 15	0 10

POULTRY.

CONDITIONS AND REGULATIONS.

CHARGES, &c.

1. Exhibitors may make an unlimited number of Entries on payment of fees as follows :—

MEMBERS.	NON MEMBERS.
<i>s. d.</i>	<i>s. d.</i>
2 0	3 0

The above fees include coops, food, and attendance.

N.B.—The above fees *must* be sent with the entries, or no notice will be taken of the latter.

2. The privilege of entering at Members' fees is strictly limited to Members of the Bath and West Society, elected on or before January 28, 1908, and subscribing not less than £1 annually.

3. All entries must be made on the printed forms to be obtained of the Secretary (THOS. F. PLOWMAN, 3, Pierrepont Street, Bath), and such forms must be correctly filled up and returned to the Secretary, together with all fees due on or before May 1. Exhibitors are requested to carefully examine the List of Prizes and Conditions, as the Society cannot be responsible for any errors made by Exhibitors in the entry forms, and birds entered in a wrong class will be necessarily excluded from competition. No alterations can be made in entry forms after they have been received by the Secretary.

4. The Council reserve the right to refuse the entries of any person.

5. Exhibitors must state the price and breed of their birds on their entry forms.

SHOW YARD.

6. All birds must be in the Show Yard by 6 p.m. on *Tuesday, May 26*, and no bird can be removed before 7 p.m. on Monday, June 1. Any Exhibitors who send for their birds must do so between 7 and 8 p.m. on that day.

7. All carriage must be prepaid to Dorchester Railway Station, otherwise the birds will not be received at the Exhibition; but they will be conveyed free of expense from the Station to the Show Yard and back.

8. No Exhibitor or Servant will be allowed into the tent until the birds have been judged.

9. The Poultry Tent will not be open to the public until 2 o'clock on the first day of the Exhibition.

10. A non-Transferable Admission Ticket for the Exhibition will be sent to each Exhibitor whose entry fees amount to £1 and upwards.

TABLE POULTRY.

11. In these Classes (56 to 59 and 67 to 71) quality for the table will be considered before mere weight. The date of hatching must be given, and, in the case of cross-bred birds, the breeds of the parents.

12. In Classes 67 to 71 the whole of the Birds will be first exhibited alive. They will all be killed on the evening of Wednesday, May 27, and trussed by a qualified Poulterer, the prizes being finally awarded to the dead birds. These will then all be exhibited, but will be withdrawn from exhibition when considered necessary, and, if unsold, will be returned to Exhibitors after 6 p.m. on Friday, May 29. Exhibitors are recommended to put a reasonable price upon their exhibits in these Classes so as to promote the sale of them.

SALES.

13. All birds may be claimed at the price put upon them, any time after 4 o'clock on Wednesday, May 27, and a sale *must take place* if the price stated be paid to the Clerk in the Poultry Office at the time of claiming. *No alteration can be made in the prices stated on the entry forms* and in the Catalogue until after Friday, May 29, when the price may be reduced on payment to the Stewards of one shilling per pen on each alteration. Birds must be *sold in pens*, and the price stated must include

the basket. A charge of 10 per cent. will be made for all birds sold. The persons who have the management of the sales cannot take charge of birds which are disposed of privately.

AWARDS.

14. No second prize will be given in any of the Classes unless there are three entries, and no third prize unless there are six entries.

DISQUALIFICATIONS.

15. The Judges are empowered to withhold a prize or prizes where birds are not considered of sufficient merit, and are instructed to disqualify any that have been clipped, drawn, trimmed, marked, or dyed. In the Game Classes birds can be shown either dubbed or undubbed.

16. An Exhibitor detected in a false statement as to the age, &c., of any bird, or in any other practice calculated to deceive or mislead the Judges or Stewards, shall forfeit all or any prizes awarded to him or her at the Show, and will be disqualified from competing at any future Show of the Society, and the Council shall have the power to inform other Societies of their action in this respect.

17. No person who shall have been shown to the satisfaction of the Council to have been excluded from exhibiting for Prizes at the exhibition of any other Society in consequence of having attempted to obtain a Prize by giving a false Certificate, or by other unfair means, and no person who is under exclusion from any Breed Society for fraudulent practices, shall be allowed to exhibit at this or any other meeting of the Society.

18. Unhealthy birds will not be exhibited, but will be immediately returned to their owners, and the fees will be forfeited.

PROTESTS.

19. In order to check frivolous and vexatious protests, no protest will be entertained unless accompanied by a deposit of £1 in each case; and in case the protest is not substantiated the deposit may be forfeited to the funds of the Society. All protests must be made before 12 o'clock (noon) on Thursday, May 28.

FORFEITS.

20. Persons entering birds and failing to send the same to the Exhibition will forfeit the entrance fee for each pen so left vacant.

GENERAL.

21. All birds shown must be *bona fide* the property of the Exhibitor.

22. For each pen entered the Exhibitor will receive a label, on the reverse side of which he must legibly write his name and address for the return journey.

23. All eggs laid at the Exhibition will be destroyed.

24. The Stewards pledge themselves to take every care of the birds exhibited, but neither they nor the Society will, in any case, be responsible for any accident, loss, or damage, from whatever cause arising, the exhibits being entered at the sole risk of the Exhibitors, and Exhibitors will be required to hold the Society harmless in the event of loss.

25. In case of death of any bird during the Exhibition, it will be sent back for the inspection of the Exhibitor.

26. The Poultry Department is subject to the Rules and Regulations of the Society and its Officers.

* * *The use of properly constructed Poultry Baskets will facilitate the safe and speedy conveyance of the birds to and from the Exhibition.*

The Society cannot, under any circumstances, undertake to send telegrams to Exhibitors as to Judges' awards.

Applications for Catalogues (price 1s. each) and printed lists of awards should be made only to the Publishers, Messrs. W. LEWIS AND SON, Herald Office, Bath.

By order of the Council,

3, Pierrepont Street, Bath.

THOMAS F. FLOWMAN, Secretary.

TELEGRAPHIC ADDRESS—"FLOWMAN, BATH."

FINANCIAL STATEMENTS

FOR

1907

WITH ITEMS OF 1906 FOR COMPARISON.

	PAGES
SUMMARY OF THE CASH ACCOUNT ...	cxxxvi-cxxxvii
DETAILED CASH ACCOUNT	cxxxviii-cxlix
ASSETS AND LIABILITIES	cl
STATEMENT SHOWING RESULT OF SHOW ...	cli

The Bath and West and SUMMARY OF THE CASH ACCOUNT

DR.

WITH COMPARATIVE

Page of accompany- ing Cash Account.	RECEIPTS.	1907. NEWPORT.			1906. SWINDON.		
		£	s.	d.	£	s.	d.
	General:—						
cxixviii	Dividends and Interest	670	19	4			670
cxixviii	Miscellaneous	0	2	0			1
cxixviii	Subscriptions from Members	1,070	19	6			1,070
cxixviii	Life Compositions	15	0	0			40
cxixviii	Journal	38	5	7			33
					1,795	6	5
	Show:—						1,828
cxixviii	Implements	1,958	8	8			2,021
cxl	Horses						561
cxl	Cattle, Sheep, and Pigs						1,070
cxl	Catalogues, &c.						82
		1,618	15	8			1,713
cxl	Poultry						82
cxlii	Shoeing						89
cxlii	Art Manufactures						100
cxlii	Timbering and Splicing						
cxlii	Ambulance						
cxliv	Bees and Honey						
cxliv	Cheese and Butter						102
cxliv	Working Dairy						120
cxliv	Cider						12
cxliv	Admissions	8,834	14	3			2,054
cxlvi	Unapportionable:—						
	Contract Premiums, &c.						462
	Sales and Fittings						100
		1,017	3	10			562
cxlvi	Subscription from Dorchester for 1908 Show	800	0	0			800
					9,790	14	4
cxlvi	Schools:—				50	0	0
cxlviii	Experiments:—				349	6	3
					11,985	7	0
	Balance in Bank, January 1st				140	8	6
					£ 12,125	10	6

Southern Counties Society.**THE YEAR ENDING DEC. 31st, 1907.****STATEMENT FOR 1906.****CR.**

PAYMENTS.	1907. NEWPORT.		1906. SWINDON.	
	£	s. d.	£	s. d.
General:—				
Salaries	1,125	0 0	1,125	0 0
Printing, Postage, Stationery, &c.	240	9 5	266	10 8
Journal	422	16 3	454	7 7
			1,845	18 3
Show:—				
Implements	670	18 8	705	15 5
Horses	1,207	12 10	1,263	10 7
Cattle, Sheep, and Pigs	2,476	19 1	2,541	8 8
Fodder, &c.	580	5 10	535	4 4
	4,264	17 9	4,340	3 7
Poultry	258	8 1	249	17 3
Shoeing	185	3 4	191	11 4
Art Manufactures	73	6 0	75	8 7
Nature Study and Forestry	134	0 7	95	12 1
Music	272	12 6	208	1 6
Horticulture	194	8 11	174	4 5
Timbering and Splicing	31	10 1		
Ambulance	20	16 4		
Bees and Honey	13	14 9	10	0 0
Cheese and Butter	258	19 4	243	1 9
Working Dairy	506	16 1	467	5 4
Cider	106	1 9	84	0 1
Public Announcements	466	17 9	513	4 10
Unapportionable:—				
Erection of Offices, &c.	1,222	19 2	742	19 4
Carriage of Plant	127	2 1	123	17 10
Stand Fittings	180	0 0	185	0 0
Police	104	10 0	84	17 6
Institutions	10	10 0	21	0 0
Miscellaneous	455	19 3	275	12 8
	2,101	0 6	1,433	7 4
			9,559	12 5
Schools:—			16	3 6
Experiments:—			490	4 11
			11,854	6 6
Balance in Bank, Dec. 31st.			271	4 0
			11,158	17 2
			140	3 6
			£ 12,125	10 6
			11,299	0 8

By 20th, 1908.

Audited and found correct,

F. CLIFFORD GOODMAN, F.C.A.,

Passed by Council,

January 23rd, 1908.

THOS. F. FLOWMAN,

The Bath and West an

Dr. CASH ACCOUNT FOR THE YEAR ENDING DEC. 31

RECEIPTS.	1907. NEWPORT.		1906. NEWPORT.
	£ s. d.	£ s. d.	
DIVIDENDS AND INTEREST :—			
Consols	138 14 8		138
New Zealand Stock	52 2 8		52
India Stock	214 17 0		214
Canada Stock	68 0 10		68
Queensland Stock	104 11 0		104
New South Wales Stock	66 11 10		66
Interest on Deposit	26 1 4		26
		670 19 4	670
MISCELLANEOUS :—		2 0	2
SUBSCRIPTIONS FROM MEMBERS :—			
Arrears	23 7 0		23
Governors	183 13 0		183
Subscribers of £1 and upwards	848 19 0		848
Ditto of 10s.	15 0 6		15
		1,070 19 6	1,070
LIFE COMPOSITIONS :—		15 0 0	15
JOURNAL :—			
Sales	13 0 1		13
Advertisements	25 5 6		25
		38 5 7	38
IMPLEMENTS :—			
Entry Fees	80 10 0		80
Fees for Space :—			
Machinery-in-Motion	423 5 0		423
Ordinary Shedding	364 0 0		364
Miscellaneous "	382 10 0		382
Boarded "	304 2 6		304
Seed "	22 5 0		22
Uncovered Ground	282 5 2		282
Catalogue Fees	99 11 0		99
		1,958 8 8	1,958
Carried forward	£ 3,753 15 1		3,753

Southern Counties Society.

1907, WITH COMPARATIVE STATEMENT FOR 1906.

CR.

PAYMENTS.	1907. NEWPORT.		1906. SWINDON.	
	£	s. d.	£	s. d.
SALARIES :—				
Secretary (including Clerks, Show Expenses, &c.)	1,050	0 0	1,050	0 0
Auditor	20	0 0	20	0 0
Consulting Chemist	30	0 0	30	0 0
„ Botanist	25	0 0	25	0 0
		1,125 0 0		1,125 0 0
MISCELLANEOUS :—				
Printing	27	12 6	39	5 0
Stationery and Finance Books	46	2 1	42	1 7
Postages, Telegrams, Cheque and Receipt Stamps	58	8 2	64	15 4
Ground Rent and Rates	18	7 0	18	4 2
Income and Property Tax	9	10 6	30	1 6
Travelling Expenses	28	15 11	27	8 5
Carriage of Goods	9	15 4	7	7 4
Directories and Reference Books	0	14 1	4	5 0
Subscriptions	5	5 0	5	5 0
Repairs, &c.	12	1 8	5	6 11
Hire of London Rooms for Meetings	6	6 0	3	8 6
Office Fittings	3	9 0	1	12 0
Fuel and Lights	6	0 5	7	5 11
Finance Committee's Expenses	8	1 9	10	4 0
		240 9 5		266 10 8
JOURNAL :—				
Editor	100	0 0	100	0 0
Associate Editor	100	0 0	100	0 0
Printing and Binding	144	0 3	187	18 4
Plans and Blocks	8	17 7	8	13 0
Journal Distribution	20	3 4	23	18 9
Postage, Stationery, Reference Books, &c.	3	17 1	3	16 6
Payments to Authors	45	18 0	35	1 0
		422 16 3		454 7 7
IMPLEMENTS :—				
Shedding	567	11 2	572	19 7
Stewards and Assistants	55	9 11	80	9 11
Printing, Stationery, &c.	43	17 7	51	9 5
Fees returned	4	0 0	0	16 6
		670 18 8		705 15 5
Carried forward	£	2,459 4 4		

NEWPORT MEETING, 1907.

(cxi)

DR.

CASH ACCOUNT—continued.

RECEIPTS.		1907. NEWPORT.		19 SWIN
		£ s. d.	£ s. d.	£ s.
Brought forward	.		3,753 15 1	
HORSES, CATTLE, SHEEP, AND PIGS :—				
	£ s. d.			
Horses :—Entry Fees	229 10 0			267 10
Fines and Forfeits	5 0 0			4 0
Grand Stand Admissions	346 13 6			227 10
Special Prizes	125 10 0			62 4
		706 13 6		561 4
Cattle, Sheep, and Pigs :—				
	£ s. d.			
Entry Fees	530 0 0			675 0
Fines	45 15 0			22 10
Special Prizes	249 5 0			373 10
		825 0 0		1,070 0
Catalogues, &c.		87 2 2		82 4
			1,618 15 8	1,713 10
POULTRY :—				
	£ s. d.			
Entry Fees	64 5 0			79 0
Commission on Sales	1 14 8			1 10
Special Prizes				2 4
			65 19 8	82 10
Carried forward	.	£ 5,438 10 5		

CASH ACCOUNT—*continued.*

CR.

PAYMENTS.	1907. NEWPORT.			1906. SWINDON.		
	£	s.	d.	£	s.	d.
Brought forward				2,439	4	4
HORSES, CATTLE, SHEEP, AND PIGS:—						
Horses—Prizes	783	10	0			
Less Deferred	4	0	0			
	779	10	0			
Shedding & Grand Stand	322	6	1			
Stewards and Assistants	58	5	5			
Judges	47	1	4			
Fees returned	0	10	0			
	1,207	12	10			
Cattle—Prizes	1,074	5	0			
Less Deferred	10	0	0			
	1,064	5	0			
Sheep—Prizes	494	0	0			
Pigs—Prizes	229	0	0			
Shedding and Canvas	483	1	5			
Stewards and Assistants	39	0	2			
Judges	165	2	6			
Fees Returned, etc.	2	10	0			
	2,476	19	1			
Buildings, etc.	267	0	6			
Fodder and Insurance	175	9	1			
Fodder Assistants and Horse Hire	7	9	4			
Veterinary Inspector	24	14	0			
Rosettes	12	3	6			
Printing and Stationery	79	10	6			
Refreshments for Judges	13	18	11			
	580	5	10			
POULTRY:—						
Marquee, Staging and Shed	58	5	10			
Steward and Assistants	26	13	8			
Judges	15	16	6			
Prizes	145	15	0			
Printing, Stationery, Cartage, &c.	11	17	1			
	258	8	1			
Carried forward	£	6,932	10	2		

NEWPORT MEETING, 1907.

(cxlii)

Dr.

CASH ACCOUNT—*continued.*

RECEIPTS.		1907. NEWPORT.		1907. SAINT
		£ s. d.	£ s. d.	£ s. d.
	Brought forward		5,438 10 5	
SHOEING :—				
	Entry Fees	53 0 0		69 0 0
	Special Prizes	15 0 0		20 0 0
	Miscellaneous	0 15 0		
			68 15 0	89 0 0
ART-MANUFACTURES :—				
	Fees for Space		117 6 0	105 0 0
TIMBERING AND SPICING :—				
	Entry Fees	1 12 6		
	Special Prizes	17 0 0		
			18 12 6	
AMBULANCE :—				
	Entry Fees	2 10 0		
	Special Prizes	15 0 0		
			17 10 0	
	Carried forward	£	5,560 13 11	

CASH ACCOUNT—continued.**CR.**

PAYMENTS.	1907. NEWPORT.		1906. SWINDON.	
	£	s. d.	£	s. d.
Brought forward			6,932	10 2
SHOEING :—				
Prizes	52	0 0		53 10 0
Judges	16	12 0		15 13 6
Anvils, Forges, Coals, Horses, Printing, etc.	24	18 10		19 12 0
Shedding	56	1 10		55 15 6
Steward and Assistants	10	7 9		9 1 0
Fees returned	25	2 11		35 19 4
			185	3 4
ART-MANUFACTURES :—				
Labour and Fittings	66	16 8		66 8 1
Steward and Assistants, Printing, etc.	6	9 4		9 0 6
			73	6 0
NATURE STUDY AND FORESTRY :—				
Labour and Fittings	78	16 7		67 8 2
Steward and Assistants	14	9 10		4 8 0
Printing, Postage, etc.	23	5 6		17 15 5
Prizes	8	4 8		6 0 6
Judge	4	4 0		. . .
Ditto (1906)	5	0 0		. . .
			134	0 7
MUSIC :—				
Bands and their Fares	235	0 0		175 0 0
Steward and Assistant	5	12 6		5 1 6
Erecting Band Stand and Seats, etc.	32	0 0		28 0 0
			272	12 6
HORTICULTURE :—				
Gratuities to Gardeners	100	0 0		100 0 0
Erecting and Repairing Tent and Staging	73	5 5		55 0 0
Steward and Assistants	21	3 6		19 4 5
			194	8 11
TIMBERING AND SPLICING :—				
Prizes	17	0 0		
Judge	4	8 0		
Timber, Rope, Printing, Stationery, &c.	10	2 1		
			31	10 1
AMBULANCE :—				
Prizes	15	0 0		
Judge	2	9 6		
Shedding, Fittings, Printing, &c.	3	6 10		
			20	16 4
Carried forward	£		7,894	7 11

Dr.

CASH ACCOUNT—continued.

RECEIPTS.	1907. NEWPORT.		1906 SUM.
	£	s. d.	£
Brought forward			5,660 13 11
BEEES AND HONEY:—			
Entry Fees	0	7 6	
Special Prizes.	8	0 0	
			3 7 6
CHEESE AND BUTTER:—			
Entry Fees	52	0 0	64 0
Sales	16	19 3	14 0
Special Prizes and Fines	15	10 0	2 0
			84 9 3
WORKING DAIRY:—			
Admissions	15	6 0	5 0
Entry Fees, Competitions	42	3 6	21 0
" Dairy Appliances	15	15 0	7 0
" Milk and Butter Tests	16	10 0	37 0
	74	8 6	66 0
Sale Premium	35	0 0	27 0
Special Prizes	41	0 0	20 0
			165 14 6
CIDER:—			
Entry Fees	10	17 6	12 0
Special Prizes	9	0 0	
			19 17 6
ADMISSIONS TO SHOW-YARD:—			
Admissions at 2s. 6d.	1,886	0 0	8,448 0
" " 1s.	1,768	3 0	1,876 0
" " 6d.	83	12 6	15 0
Season Tickets	96	18 9	54 0
			3,834 14 3
Carried forward	£	9,769 16 11	2,954 0

CASH ACCOUNT—continued.**CR.**

PAYMENTS.	1907. NEWPORT.		1906. SWINDON.	
	£	s. d.	£	s. d.
Brought forward			7,894	7 11
BEES AND HONEY:—				
Beekopers' Association	10	0 0		10 0 0
Prizes	3	0 0		
Printing, &c.	0	14 9		
			13	14 9
CHEESE AND BUTTER:—				10 0 0
Judges	11	1 4		11 5 0
Prizes	161	0 0		155 10 0
Steward and Assistant	13	16 3		15 1 4
Shedding	62	6 3		51 3 9
Printing, Stationery, Carriage, &c.	5	15 6		5 1 8
Grass Table for Butter	5	0 0		5 0 0
			258	19 4
WORKING DAIRY:—				243 1 9
Steward and Assistants	54	8 3		52 6 5
Judges and Demonstrators	65	12 0		73 9 7
Buildings	250	10 5		218 0 11
Printing, Stationery, Postage and Insurance	9	12 5		8 7 0
Utensils, Carriage, Milk and Churners for				
Churnability Tests, &c.	37	4 9		36 15 8
Prizes	76	13 8		56 17 0
Coal, Salt, Ice, &c.	7	4 7		5 12 4
Consulting Chemist for Analyses	5	10 0		15 16 5
			506	16 1
CIDER:—				467 5 4
Shedding and Fittings	35	9 3		25 0 0
Steward and Assistants	17	11 0		17 8 11
Judge	5	0 0		5 17 4
Prizes	22	6 0		12 19 4
Printing, &c.	6	11 6		5 6 6
Analyses, Carriage, &c.	19	4 0		17 8 0
			106	1 9
PUBLIC ANNOUNCEMENTS:—				84 0 1
Advertising	186	1 9		170 17 0
Billposting	180	7 0		207 11 2
Railway Placards	46	15 0		45 2 4
Printing	53	14 0		89 14 4
			466	17 9
				513 4 10
Carried forward	£	9,246 17 7		

NEWPORT MEETING, 1907.

(cxlvi)

Dr.

CASH ACCOUNT—*continued.*

RECEIPTS.	1907 NEWPORT.		1906 SWIN:
	£	s. d.	£
Brought forward			9,768 16 11
SHOW (UNAPPORTIONABLE):—			
Sales and Fittings	514	18 10	390
Contract Premiums, &c.	502	5 0	463
			1,017 3 10
			853 1
SUBSCRIPTIONS FROM TOWNS:—			
Dorchester, for 1906 Show			800 0 0
			800
SOMERSET CHEESE SCHOOL:—			
			50 0 0
			284 1
Carried forward	£	11,636 0 9	

CASH ACCOUNT—continued.**CR.**

PAYMENTS.	1907. NEWPORT.		1906. SWINDON.	
	£	s. d.	£	s. d.
Brought forward			9,246	17 7
SHOW (UNAPPORTIONABLE):—				
Official Buildings, &c.	1,047	19 2	594	14 0
Hoarding	175	0 0	148	5 4
Yard Straw	21	13 10		
Carriage of Plant	127	2 1	123	17 10
Works Assistant.	9	15 10	12	5 0
Stand Fittings	1£0	0 0	185	0 0
Insurance	15	12 4	8	0 0
Furnishing Royal and other Pavilions	63	0 0	14	0 0
Mess Room, &c.	5	5 0	5	5 0
Gatekeepers, Yardmen, Messengers, &c.	104	4 1	95	15 8
Stewards of Finance and Treasurer	30	0 8	19	2 9
Finance Office and Treasurer's Clerks	40	0 1	39	16 6
Police	104	10 0	84	17 6
Badges, &c.	5	10 0	5	10 9
Catalogues for Press and Officials	8	2 0	5	15 0
Purchase of Plant	42	12 3	10	17 0
Printing and Stationery	47	1 11	44	9 8
Entertainment of Royalty and others	46	13 8	14	15 4
Institutions	10	10 0	21	0 0
Extension of Telegraph Wires	5	5 0		
" " " (1906)	11	2 7		
			2,101	0 6
			1,433	7 4
SOMERSET CHEESE SCHOOL:—			16	3 6
			13	9 9
EXPERIMENTS:—				
FIELD—	£	s. d.		
Printing and Stationery	1	10 0	3	7 9
Steward, for Travelling, Postage, &c.	2	2 0	9	11 6
Manures	4	8 5	2	15 7
Consulting Chemist for Analyses			4	2 2
	8	0 5	19	17 0
Carried forward	8	0 5	£11,364	1 7

(cxlvi)

CASH ACCOUNT—continued.

RECEIPTS.		1907. NEWPORT.		1906. SWANSEA.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward		11,636	0 9	
EXPERIMENTS :—				
MANURES AND MUTTON :—				
Sale of Sheep	296 4 3			254 39 25
Sale of Wool	28 2 0			
Government Grant	25 0 0			
		349	6 3	322
		11,985	7 0	11,234
		140	3 6	4 1
Balance in Bank, Jan. 1st	£ 12,125 10 6			11,299

(cxlix)

NEWPORT MEETING, 1907.**CASH ACCOUNT—continued.****Cr.**

PAYMENTS.	1907. NEWPORT.		1906. SWINDON.	
	£	s. d.	£	s. d.
Brought forward .	8	0 5	11,364	1 7
EXPERIMENTS :—continued.				
MANURES AND MUTTON—				
Capital Account :				
Fencing and Appliances . . .	7	6 6	12	8 9
Current Account :				
Rent of Fields, Cake, Manures, and Carriage . . . 51 17 7			34	19 0
Sheep and Expenses of Ditto 276 13 2			272	18 2
Steward and Postage . . . 22 14 0			21	5 6
Shepherding, &c. . . . 13 3 3			7	17 6
Printing, &c. 10 10 0			13	8 0
	374	18 0	361	16 11
CIDER INSTITUTE	100	0 0	100	0 0
DAIRY RESEARCH			26	1 9
		490 4 11	507	15 8
		11,854 6 6	11,158	17 2
Balance in Bank, Dec. 31st .		271 4 0	140	3 6
	£	12,125 10 6	11,299	0 8

/an. 20th, 1908.

I hereby certify that I have examined the foregoing accounts for the year ending December 31st, 1907, compared the payments entered with the vouchers, and found them all in order and correct.

F. CLIFFORD GOODMAN, F.C.A.,
Auditor.

Passed by Council,
Jan. 28th, 1908.

THOS. F. PLOWMAN,
Secretary.

NEWPORT MEETING, 1907.

NEWPORT MEETING, 1907.

ASSETS AND LIABILITIES ACCOUNT TO DECEMBER 31st, 1907, WITH COMPARISON FOR 1906.

	ASSETS.		1907.		1906.		LIABILITIES.		1907.		1906.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
INVESTMENTS	.	.	19,627	0 10	20,127	2 9	DEFERRED PRIZES	.	14	0 0	5	0 0
	Actual Cost	Market Value on Dec. 31.					UNPAID ACCOUNT	.	.	.	10	0 0
New Zealand Stock	£ 1,500	0 0	1,580	4 9					.	.		
Consols	5,809	19 6	4,892	11 9					.	.		
India	7,277	5 1	6,709	9 10					.	.		
Canada	2,000	0 0	1,794	13 4					.	.		
Queensland	8,000	0 0	2,833	19 10					.	.		
N. S. Wales	2,000	0 0	1,840	1 4					.	.		
	21,587	4 7	19,627	0 10					800	0 0	800	0 0
CASH ON DEPOSIT	.	.	1,000	0 0	1,000	0 0	DORCHESTER MEETING	.	.	.		
PLANT:—												
Works	.	.	356	7 7	356	7 7						
Dairy	.	.	9	15 0	9	15 0						
Office	.	.	196	3 3	196	3 3						
			562	10 6	562	6 7			450	0 0	450	0 0
HOUSE PROPERTY	.	.	633	10 7	633	10 7	JOURNAL, cost of, estimated at	.	.	.		
SUBSCRIPTION ARREARS	.	.	39	2 0	80	12 0						
BALANCE IN BANK	.	.	21,862	3 11	22,403	11 11	BALANCE	.	.	.	1,264	0 0
			271	4 0	140	8 6			20,869	7 11	21,278	15 5
			£ 22,133	7 11	22,543	15 6			£ 22,133	7 11	22,543	15 5

(cl)

January 20th, 1908.
Audited and found correct.

Passed by Council,
January 24th, 1908.

Bath and West and Southern Counties Society.

STATEMENT SHOWING FINANCIAL RESULT OF THE NEWPORT (1907) SHOW.

Printed Financial State- ments.								
Page			£	s.	d.	£	s.	d.
xxxvi	Show Receipts					9,790	14	4
xxxvii	Show Payments		9,559	12	5			
l	Deferred Prizes		14	0	0			
			9,573	12	5			
xlili xlvii	Less Show Accounts of 1906 paid in 1907 16 2 7							
		£ s. d.						
xlvii	„ Show Plant purchased 42 12 3							
	„ 10 per cent. for depreciation 4 5 3							
		33 7 0						
			54	9	7			
						9,519	2	10
	Net profit					£271	11	6

Bath and West and Southern Counties Society,

FOR THE

*Encouragement of Agriculture, Arts, Manufactures and Commerce.***List of Members, 1908.****PATRON.**

HIS MOST GRACIOUS MAJESTY THE KING.

PRESIDENT

FOR 1907-1908.

THE RIGHT HON. THE LORD DIGBY.

TRUSTEES.

THE MOST HON. THE MARQUESS OF BATH.

SIR C. T. D. ACLAND, BART.

C. L. F. EDWARDS, ESQ.

Names thus () distinguished are Governors.**Names thus (†) distinguished are Life Members.**** Members are particularly requested to make the Secretary acquainted with any errors in the names of residences.*

Name.	Residence.	Sub- scriptions.
		£ s. d.
†His Most Gracious Majesty the King	Windsor Castle . . . . .	..
†H.R.H. The Prince of Wales, K.G.	Sandringham . . . . .	..
†Ackers, B. St. John	Huntley Manor, Huntley, near Gloucester . . . . .	..
Ackland, J.	Cutton Farm, Poltimore, Exeter . .	1 0 0
Acland, Alfred Dyke	3, Cadogan Square, London, S.W. .	1 0 0
†Acland, Rt. Hon. A. H. Dyke . . . . .	. . . . .	..
*Acland, Sir C. T. D., Bart.	Killerton, Exeter	5 0 0
Acland, F. Dyke	Weaponness Park, Scarborough . .	1 0 0
Acland, J. Dyke	Bossington, Allerford, Taunton . .	1 0 0
Adams, E.	Horner Farm, West Luccombe, Minehead	0 10 0
Adams, George	Wadley House, Faringdon, Berks .	1 0 0
*Addington, Hon. G.	Upottery Manor, Honiton	2 0 0
Adeane, C. R. W.	Babraham, Cambridge	1 0 0

Subscriptions.

cliii

Name.	Residence.	Sub- scriptions.
		£ s. d.
Aiken, J. C.	The Glen, Stoke Bishop, Bristol	1 0 0
†Aitken, G. H.	Longleat Estate Office, Warminster	..
Akers, E.	St. Fagans, Cardiff	1 0 0
Alexander, D. T.	5, High Street, Cardiff	1 1 0
Alexander, H. G.	Dinas Powis, Cardiff	1 1 0
†Allen, Major-Gen. R. E., C.B.	10, Hanover Square, London, W.	..
†Allen, James D.	Springfield House, Shepton Mallet	..
*Allen, J.	Park Place, Cardiff	2 0 0
Allen, W. T.	West Bradley, Glastonbury	1 0 0
Allin, Mrs. N.	Thuborough Barton, Holsworthy	1 0 0
Allix, C. I. L.	St. Germans, Cornwall	1 0 0
Ames, F.	Hawford Lodge, Worcester	1 0 0
*†Amherst, Earl	Montreal, Sevenoaks . . . . .	..
Andrews, S. Fox	Union Street, Bath	1 0 0
Anglo-Bavarian Brewery Company	Shepton Mallet	1 0 0
Anglo-Continental Guano Works	15, Leadenhall Street, London, E.C.	1 0 0
Anglo-Swiss Condensed Milk Company	Chippenham	1 0 0
Archer, C.	Trelaske, near Launceston	1 0 0
Armitage, C. W.	The Woodlands, Northaw, Potters Bar	1 0 0
Ashburton, Lord	The Grange, Alresford, Hants	1 0 0
†Ashcombe, Lord	Denbies, Dorking . . . . .	..
Ashcroft, W.	13, The Waldrons, Croydon	1 0 0
Ashford, E. C., M.D.	The Moorlands, Bath	1 0 0
†Avebury, Lord	High Elms, Hayes, Kent . . . . .	..
†Aveling, Thomas L.	Rochester . . . . .	..
Avon Manure Company	St. Philip's Marsh, Bristol	1 0 0
Awdry, C.	Shaw Hill, Melksham	1 0 0
Awdry, P. D.	Chippenham	1 0 0
Badcock, H. Jefferies	Taunton	1 0 0
Bailey, J.	Nynehead, Wellington, Somerset	1 0 0
Bailward, F. H. M.	Horsington, Wincanton	1 1 0
Bainbridge, Mrs. R. C.	Elfordleigh, Plympton, South Devon	1 0 0
Baker, G. E. Lloyd	Hardwicke Court, nr. Gloucester	1 0 0
†Baker, M. G. Lloyd	The Cottage, Hardwicke, Glos. . . . .	..
†Baker, L. J.	Ottershaw Park, Chertsey, Surrey	..
†Baker, Robert W. G.	2, Leighfield Terrace, Seaton, Devon . . . . .	..
Baker, G.	Red Barn, Nash, nr. Newport, Mon.	1 0 0

Name.	Residence.	Sub- scriptions.
		£ s. d.
Baker, S.	Lower Grange, Magor, Mon.	1 1 0
*Balston, W. E.	Barvin, Potters Bar, Herts	2 0 0
Bamford, H. and Sons	Uttoxeter	1 0 0
*Bannatyne, J. F.	Haldon, Exeter	2 2 0
Barford and Perkins	Peterborough	1 0 0
Barham, G. T.	Sudbury Park, Wembley, Middlesex	1 0 0
Baring, Hon. A. H.	The Grange, Alresford, Hants	1 0 0
Barker, J., M.P.	The Grange, Bishops Stortford	1 0 0
Barling J. L., M.R.C.V.S.	King Street, Hereford	1 0 0
Barlow, Sir J. Emmott, M.P.	Torkington Lodge, near Stockport	1 0 0
Barrett, Major William	Moredon, North Curry, Taunton	1 0 0
Barrett, Col. W.	Moredon, Taunton	1 0 0
Barstow, J. J. J.	The Lodge, Weston-super-Mare	1 1 0
Barton, D. J.	Castle Farm, South Cadbury, Somerset	0 10 0
Bassett, A. F.	Tehidy, Camborne, Cornwall	1 0 0
*†Bath, Marquess of	Longleat, Warminster . . . . .	..
Bath and Wells, The Bishop of	The Palace, Wells	1 1 0
Bath Gas Company	Bath	1 0 0
Bathurst, C., jun.	Redhill, Lydney, Glos.	1 0 0
Batten-Pooll, R. H.	Road Manor, Bath	1 0 0
†Battishill, W. J.	St. Loyes, Exeter . . . . .	..
†Baxendale, J. Noel	Allington, Eastleigh . . . . .	..
Bayley, J.	Highlands, Ivybridge, S. Devon	1 0 0
Beauchamp, E. B.	Trevince, Redruth	1 0 0
Beauchamp, F. B.	Woodborough House, Peasedown St. John, Bath	1 1 0
*Beaufort, Duke of	Badminton, Chippenham	2 2 0
Beaufoy, M. H.	Coombe Priory, Shaftesbury	1 0 0
Bennett, E. J.	Chilmark, Salisbury	1 0 0
Bennett, Brothers	Journal Office, Salisbury	1 1 0
Bentall, Edward H. & Co.	Heybridge, Maldon, Essex	1 0 0
Benyon, H. A.	Englefield House, Reading	1 1 0
*Benyon, J. Herbert	Englefield House, Reading	5 0 0
Berryman, F. H.	Field House, Shepton Mallet	1 1 0
Best, Capt. T. G.	Redrice, Andover	1 0 0
†Best, Capt. W.	Ystrad, Llangollen, North Wales . . . . .	..
Bigg, Thomas	Lieicester House, Great Dover Street, London, E.C.	0 10 0
Bingham, D. G.	Sunnyside, Box, Wilts	1 0 0
Birmingham, C.	Holnicote, near Minehead	0 10 0
Biscoe, H. S. T.	Holton Park, near Oxford	1 0 0
†Blackburn, H. P.	Donhead Hall, Salisbury . . . . .	..
Blackstone & Co. (Ltd.)	Rutland Iron Works, Stamford	1 1 0
Blake, H. L. T.	Fairfield, Bridgwater	1 0 0
Blake, M. Lock	Bridge, S. Petherton	1 0 0
Blathwayt, R. T.	Dyrham Park, Chippenham	1 1 0
Blyth, Sir J., Bart.	33, Portland Place, London, . W	1 0 0

Subscriptions.

clv

Name.	Residence.	Sub-
		scriptions.
		£ s. d.
Board, J.	Hill Farm, East Pennard, Shepton Mallet	1 0 0
Board, R. J.	Skinner, Board & Co., Rupert St., Bristol	1 0 0
Boby, Robert	Bury St. Edmunds, Suffolk	1 0 0
Bolden, Rev. C.	Preston Bissett, Buckingham	1 0 0
Bolitho, R. F.	Ponsandane, Penzance	1 1 0
Bolitho, T. B.	Trewidden, Penzance	1 0 0
Bond, E.	Hele, Cullompton	1 0 0
†Bond, N.	Creech Grange, Wareham, Dorset . . . . .	..
Boscawen, Rev. A. T.	Ludgvan Rectory, Long Rock, R.S.O., Cornwall	1 0 0
Boscawen, Hon. John R. de C.	Tregye, Perranwell, Cornwall	1 1 0
Boscawen, Townshend E.	2, Old Burlington St., London, W.	1 0 0
†Boughton-Knight, A. R.	Downton Castle, Ludlow . . . . .	..
Bound, William	Hurstbourne Tarrant, Andover	1 1 0
Bouverie, Hon. D. P.	Coleshill House, Highworth	1 1 0
Bouverie, H. P.	Brymore, Bridgwater	1 0 0
†Bowen-Jones, J.	Beckbury, Shrewsbury . . . . .	..
†Bowerman, Alfred	Capton, Williton, Somerset . . . . .	..
Bowring, R. A.	Rockhill House, Keynsham	1 0 0
Boyle, Sir E., Bart., K.C., M.P.	Ockham, Hurst Green, Sussex	1 0 0
Boyle, M.	Horsington House, Templecombe, Somerset	1 0 0
Braby, E. E.	Drungewick Manor, Horsham, Sussex	1 0 0
Bradford Thomas & Co.	Salford, Manchester	1 0 0
Braikenridge, W. J.	Newton House, Clevedon, Somerset	1 1 0
Brand, Admiral Hon. T. S.	Glynde, Lewes, Sussex	1 0 0
†Brassey, A., M.P.	Heythrop, Chipping Norton, Oxon . . . . .	..
*†Brassey, H. L. C.	Preston Hall, Aylesford, Kent . . . . .	..
Brewer, H. Melvill	Newport, Mon.	1 0 0
Bridges, J. H.	Ewell Court, near Epsom	1 1 0
<i>Bristol Times and Mirror</i> , Proprietors of	Bristol	1 0 0
Bristol Wagon Works Co. (Ltd.)	Lawrence Hill, Bristol	1 1 0
Britten, Admiral R. F.	Kenswick, Worcester	1 0 0
†Broadmead, W. B.	Enmore Park, Bridgwater . . . . .	..
†Brocklehurst, H.D.	Sudeley Castle, Winchcombe . . . . .	..
Brockman, F. D.	Beach Borough, Hythe, Kent	1 0 0
Broderip, E.	Cossington, Somerset	1 0 0
Brown, J.	Marden, Hertford	1 0 0
Browning, Albert, M.A.	The Homestead, Combe Park, Bath	1 1 0
Bruford, R.	Nerrols, Taunton	1 0 0
Brune, G. C. Prideaux	Prideaux Castle, Padstow	1 0 0

Name.	Residence.	Subscriptions.		
		£	s.	d.
Bryant, W. C. . . .	Berwick, Bridport	1	0	0
†Brymer, William E. . . .	Islington House, Dorchester . . . .	..	
Buchanan-Boyd, Capt. E. M. . . .	St. Leonard's Chambers, Nicholas Street, Bristol	1	0	0
†Buckingham, Rev. F. F. . . .	The Rectory, Doddiscombsleigh, Dunsford, Devon . . . .	..	
Buckingham, W. . . .	Millbrook Farm, North Molton	1	0	0
Budd, Felix S. . . .	Ferncliff, Stow Park, Newport (Mon.)	1	0	0
Budd, J. E. . . .	Tidebrook Manor, Wadhurst, Sussex	1	0	0
Burghclere, Lord	Titsey Place, Surrey	1	0	0
Burnard, R. . . .	Cattedown, Plymouth	1	0	0
Burrell, C., and Sons	St. Nicholas Works, Thetford	1	0	0
†Burrell, Sir C. R., Bart. . . .	Knepp Castle, Sussex . . . .	..	
Burton, J. H., M.Sc. . . .	County Education Office, Weston-super-Mare	1	1	0
Bush, Mrs. L. E. . . .	Rock House, Chipping Sodbury, Glos. . . .	1	1	0
Bush, G. de Lisle	Standish House, Stonehouse, Glos. . . .	1	1	0
Buswell, C. and W. . . .	Torquay	1	0	0
*Bute, The Marquess of	The Castle, Cardiff	2	0	0
Butland, B. . . .	Leigham, Plympton	1	0	0
Butters, G. . . .	Hill House, Newton, Leominster	1	0	0
Butterworth, R. W. . . .	53, Pulteney Street, Bath	1	0	0
Byng, Col. Hon. C. . . .	Edymead House, Launceston	1	0	0
Cadogan, Earl, K.G. . . .	Culford, Bury St. Edmunds	1	1	0
Cæsar, H. and J. . . .	Knutsford, Cheshire	1	0	0
Came, J. and G. . . .	Woodhuish, Brixham	1	0	0
Campion, W. H. . . .	Danney, Hassocks, Sussex	1	0	0
Candy, T. C. . . .	Woolcombe, Cattistock, Dorset	1	0	0
Cannon, H. . . .	Milton Clevedon, Evercreech	1	0	0
Carew, C. . . .	Collipriest, Tiverton	1	0	0
†Carey, Alderman P. W. . . .	Shanbally, Cardiff . . . .	..	
Carnarvon, Earl of	Highclere Castle, Newbury	1	1	0
Carr, Richardson	Estate Office, Tring Park, Herts	1	0	0
*Carrington, Earl, K.G. . . .	53, Princes Gate, London, S.W. . . .	2	0	0
†Carter, E. . . .	East Upton, Ryde, Isle of Wight . . . .	..	
Carter, J. & Co. . . .	238, High Holborn, London	1	0	0
†Cartwright, F. F. . . .	7, Percival Road, Clifton . . . .	..	
Carver, H. R. . . .	West House, Chilton Polden, Bridgwater	1	0	0
Cary, Edmund	Pylle, Shepton Mallet	0	10	0
†Cary, W. H. . . .	Steeple Ashton Manor, Trowbridge . . . .	..	
Cary, W. and Son	Shepton Mallet	1	1	0
Cave, Sir C., Bart. . . .	Lidbury Manor, Sidmouth	1	0	0

Subscriptions.

clvii

Name.	Residence.	Subscriptions.		
		£	s.	d.
Cave, C. H.	Rodway Hill House, Mangotsfield, Bristol	1	0	0
Cecil, Lord A.	Mount Pleasant, Lymington.	1	0	0
Chadwyck-Healey, C. E. H., C.B., K.C.	New Place, Porlock, Somerset	1	1	0
†Chapman, C.	Carlecotes Hall, Dunford Bridge, Yorkshire	..		
Chapman, W. W.	Mowbray House, Norfolk Street, Strand, London, W.C.	1	1	0
Chetwynd, G. J. B.	Wyndthorpe, near Doncaster	1	0	0
†Chick, J. H.	Wynford Eagle, Maiden Newton, Dorset	..		
†Chick, W. D.	Compton Valence, Dorchester	..		
Chick, W. J.	Stratton, Dorchester	1	0	0
Childs, C., M.D.	Boscarn, Looe, R.S.O., Cornwall	1	0	0
Christie, A. L.	Tapeley Park, Instow, N. Devon	1	1	0
†Churchward, F.	Hill House, Stoke Gabriel, near Totnes	..		
*Clarendon, Earl of	The Grove, Watford	2	2	0
†Clark, J. J.	Goldstone Farm, Hove, Sussex, (Hon. Local Sec., 1885)	..		
Clark, W. S.	Street, Glastonbury	1	0	0
Clayden, H.	Northoe, Park View, Hoddesdon	1	1	0
Cleave, W. C.	Sanctuary, Crediton, Devon	1	1	0
Clerk, Lieut.-Col. R. M.	Charlton House, Shepton Mallet	1	0	0
*Clifden, Viscount	Lanhydroc, Bodmin	2	0	0
*Clifford, Lord	Ugbrook, Chudleigh	2	2	0
Clinton, Lord	Heanton Satchville, Dolton, N. Devon	1	0	0
Clutton, R. W.	Hartwood, Reigate	1	0	0
†Coats, P.	Sheepcote, Clifford, Herefordshire	..		
Cobb, H. M.	Higham, Rochester	1	0	0
Coleridge, Hon. G.	Holmans, Butleigh, Glastonbury	1	0	0
Coles, C.	Manor House, Winterbourne Stoke, Salisbury	1	0	0
Coles, H. Stratton	Guyers House, Corsham, Wilts	1	0	0
Coles, S. H. Cooper	Penmyarth, Crickhowell	1	1	0
Collings, Right Hon. Jesse, M.P.	Edgbaston, Birmingham	1	0	0
Collins, C. R.	Hartwell House, Exeter	1	1	0
Collins, D.	Newton Ferrers, Carrington, Cornwall	1	0	0
Colman, J.	Gatton Park, Surrey	1	0	0
*Colston, E.	Roundway Park, Devizes	2	2	0
Colthurst, Symons & Co., (Limited)	Bridgwater	1	0	0
Colville, H. K.	Bellaport Hall, Market Drayton	1	0	0
Coney, Herbert F.	The Poplars, Pucklechurch, Bristol	1	0	0
Cook, R.	Crazelowman, Tiverton	1	1	0

Name.	Residence.	Sub- scriptions.
		£ s. d.
Cooke, C. W. Radcliffe .	Helens, Herefordshire, <i>via</i> Dý- mock, Glos.	1 0 0
†Cookson, H. T.	Sturford Mead, Warminster . . . . .	..
Cooling, G. and Sons	Northgate Street, Bath	1 1 0
†Cooper, Sir R. P., Bart.,	Shenstone Court, Lichfield . . . . .	..
†Corbet, Sir W., Bart.	Acton Reynold, Shrewsbury . . . . .	..
Corbet, J. R.	More Place, Betchworth, Surrey	1 0 0
Corbet, Thomas	Perseverance Iron Works, Shrews- bury	1 0 0
Cordrey, W.	36, Southwark Street, London	1 0 0
†Cork and Orrery, The Earl of	22, Ryder Street, St. James, London, S.W. . . . .	..
†Corner, H. W.	Manor House, Inglescombe, Bath . . . . .	..
†Cornwallis, F. S. W.	Linton Park, Maidstone . . . . .	..
Cory, C. J.	Llantarnam Abbey, Mon.	1 0 0
Cory, Mrs. G. L.	11, Bentick Street, Manchester Square, London	1 0 0
Cotgrave, H. F.	The Grange, Banwell, Somerset	1 0 0
†Cotterell, Sir J. R. G., Bart.	Garnons, Hereford . . . . .	..
Coultas, J.	Perseverance Iron Works, Gran- tham	1 0 0
†Courage, Raymond	Shenfield Place, Brentwood, Essex . . . . .	..
Courtenay, Hon. H. L.	Knighton, Old Tiverton Road, Exeter	1 0 0
†Coussmaker, Lt.-Col. G.	Westwood, Normandy, Guildford, Surrey . . . . .	..
*Coventry, The Earl of	Croome Court, Severn Stoke, Worcestershire	2 0 0
Cox, B.	Pwlpen Farm, Christchurch, New- port, Mon.	0 10 0
Craigie, Major P. G., C.B.	West Wellow, Romsey, Hants	1 0 0
Crawshay, W. T.	Caversham Park, Reading	1 0 0
Crewdson, J. D.	Syde, near Cheltenham	1 0 0
Crewes, J. F.	9, Strangeways, Truro	1 1 0
Crick, Thomas	Great Ash, Winsford, Dulverton	0 10 0
Cridlan, J. J.	14, Bishop's Road, Bayswater, London, W.	1 0 0
Crispin, J. & Sons	Nelson Street, Bristol	1 0 0
Crocker, F. W.	Tedford Farm, Batcombe, Cattis- tock, Dorset	1 0 0
Croft, Sir H. Archer	Lugwardine Court, Hereford	1 0 0
Crofts, D. J.	Sutton Montis, Sparkford, Bath	1 0 0
Crossing, W. J.	Woodford Farm, Plympton	1 0 0
Crowley, J. & Co.	Meadow Hall Iron Works, Shef- field	1 0 0
Crutchley, P. E.	Limminghill Lodge, Ascot	1 0 0
Cuming, A. P.	Moreton Hampstead, Devon	1 0 0

Subscriptions.

clix

Name.	Residence.	Sub- scriptions.
		£ s. d.
Cundall, H. M., I.S.O., F.S.A.	Richmond, Surrey	1 0 0
Cundall, Sons & Co. (Ltd.)	Airedale Iron Works, Shipley	1 0 0
Currie, L.	Minley Manor, Farnborough, Hants	1 0 0
Custance, Mrs. M.	Woodlands, Southwater, Horsham	1 0 0
Dairy Supply Company (Ltd.)	Museum St., Bloomsbury, London	1 0 0
Damerel and Son	161, Sidwell Street, Exeter	1 0 0
Daniel, Rev. H. A.	Manor House, Stockland, Bridg- water	1 0 0
†Daniel, H. T.	Park House, Over Stowey, Bridg- water . . . . .	..
Daniel, Thos. C.	Stuckeridge, Bampton, North Devon	1 1 0
Darby, A. E. W.	Little Ness, Shrewsbury	1 0 0
Darby, E.	Liscombe, Dulverton	1 0 0
†Darell, D.	Ford Hill, Townstal, Dartmouth . . . . .	..
†Dashwood Sir Robert J., Bart.	West Wycombe Park, Bucks . . . . .	..
†Davenport, Rev. Geo. H.	Foxley, Hereford . . . . .	..
†Davey, J. Sydney	Brockym, Cury - Cross - Lanes, Cornwall . . . . .	..
Davey, Sleep, & Co.	Excelsior Plough Works, Ply- mouth	1 0 0
David, G. W.	Land Agent, Cardiff	1 0 0
Davies, H.	Shaftesbury Hotel, Newport, Mon.	1 0 0
Davies, W. H.	Claston, Dormington, Hereford	1 0 0
Davis, F. L.	7, Bute Crescent, Cardiff	1 1 0
†Davis, H. J.	Sutton Montis, Sparkford, S.O., Somerset . . . . .	..
†Davy, W.	Tracy Park, Bristol . . . . .	..
Daw, G.	Larkbere Farm, Ottery St. Mary, Devon	1 0 0
Daw, J. E.	Exeter	1 1 0
*†Daw, R. R. M.	9, Regent's Park, Heavitree, Exeter	1 0 0
Dawson, W. and F.	Market Place, Bath	1 1 0
Day and Sons	Crewe	1 0 0
Day, John	Huxham, E. Pennard, Shepton Mallet	1 1 0
†Day, Son, and Hewitt	22, Dorset St., Baker St., London . . . . .	..
Deacon, H. E.	V.W.H. Repository, Swindon	1 0 0

Name.	Residence.	Sub- scriptions.
		£ s. d.
†Deacon, W. S.	Poynters, Cobham, Surrey . . . . .	..
Dean, S.	Newport, Mon.	1 0 0
Dean, S. E. & Sons	Dowsby Hall, Bourne, Linca.	1 0 0
De Bertodano, B.	Cowbridge House, Malmesbury	1 0 0
De Blaquiére, Lord	3, The Circus, Bath	1 0 0
De Brunet, Don G.	San Sebastian, Spain	1 0 0
De Hamel, E.	Middleton Hall, Tamworth	1 0 0
De Weyer, Col. Victor		
Bates Van	New Lodge, Winkfield, Windsor	1 1 0
Demuth, R. H.	Downrew, near Barnstaple	1 0 0
Dening, C. & Co.	Chard, Somerset	1 0 0
Dennis, S.	Latton, Cricklade, Wilts	1 0 0
Denny, F. A. & E. H. M.	Chiddingston, Edenbridge, Kent	1 0 0
Denny, G. A.	Yarsop, Hereford	1 0 0
†Derby, The Earl of	Knowsley, Prescott . . . . .	..
De Rothschild Lady	Aston Clinton, Tring	1 0 0
De Rothschild, Miss A.	Waddesdon, Aylesbury	1 0 0
†Devas, H. G.	Hartfield, Hayes, Kent . . . . .	..
De Vicq, Mrs.	Fowler de la Perrelle & Co., South-	
	ampton	1 0 0
†De Vitre, H. Denis	Charlton House, Wantage . . . . .	..
Devon, The Earl of	Powderham Castle, Devon	1 0 0
*Devonshire, Duke of, K.G.	Chatsworth, Derbyshire	5 0 0
Devonshire, Duchess of	Compton Place, Eastbourne	1 0 0
Dickinson, R. E.	Greenway Lane, Bath	1 1 0
Dickinson, W.	Kingweston, Somerton	1 1 0
Dickson and Robinson	Cathedral Street, Manchester	1 1 0
Dickson's, Limited	Chester	1 1 0
†Digby, Lord	Minterne, Cerne Abbas . . . . .	..
Digby, F. J. B. Wingfield	Sherborne	1 0 0
Digby, G. H.	Chalinnerington House, Cattis-	
	stock, Dorchester	1 0 0
†Divett, J. R.	Golfers' Club, Whitehall Court,	
	London, S. W. . . . .	..
†Dobson, H. V.	Perridge House, Shepton Mallet . . . . .	..
Dodington, R. M.		1 1 0
Dormer, Capt. C. W. C.	Rousham, Oxford	1 0 0
Dredge, James	Melrose, Glastonbury	1 0 0
Drummond, H. W.	Syon House, Budleigh, Devon	1 0 0
Drury-Lowe, John	Locks Park, Derby	1 0 0
*Ducie, Earl of	Tortworth Court, Falfield, R.S.O.,	
	Glos.	2 0 0
Duckworth-King, Sir D.,		
Bart.	Wear House, near Exeter	1 0 0
Dudding, H.	Riby Grove, Stallingboro', Lin-	
	colnshire	1 0 0
Dugdale, J. M.	Llwyn, Llanfyllin, near Oswestry	1 0 0
Duke, H.	Clandon, Dorchester	1 0 0
†Dunboyne, Lord	Greendale, Clyst St. Mary, Exeter . . . . .	..

Subscriptions.

clxi

Name.	Residence.	Sub- scriptions.		
		£	s.	d.
Duncombe, Capt. W. H. O.	Waresley Park, St. Neots . . .	1	1	0
Dunlop, I. M.	Avonhurst, Sneyd Park, Bristol . .	1	0	0
Dunning, Sir E. H. . . .	Stoodleigh Court, Stoodleigh, N. Devon	1	0	0
*Dunraven, Earl of . . .	27, Norfolk Street, Park Lane, London, W.	2	2	0
*Dyke, Rt. Hon. Sir W. Hart, Bart.	Lullingstone Castle, Eynsford . .	2	2	0
Eagle Range and Foundry Company (Limited) . . .	Catherine Street, Aston, Birming- ham	1	0	0
Eastwood, A. C.	Leigh Court, Taunton	1	0	0
*†Eastwood, J. E.	Enton, Witley, Surrey . . . . .	..	
Economic Fencing Company (Limited)	Billiter House, Billiter Street, London, E.C.	1	0	0
Eden, R. H. H.	Sherborne, Dorset	1	0	0
Edgar, Frank	Polden Hill Dairy, Chilton Polden, Bridgwater	1	0	0
†Edgcumbe, Sir Robert Pearce	4, Queen's Gate Gardens, London, S.W. . . . .	..	
Edmonds, W.	Wiscombe Park, Colyton	1	0	0
†Edmondson, A.	Church Farm, Dry Sandford, Abingdon . . . . .	..	
Edridge, Sir. F., Bart. . .	Addiscombe Court, Croydon . . .	1	1	0
Edwards, A. P.	Hutton, Weston-super-Mare . . .	1	1	0
Edwards, C. L. Fry . . .	The Court, Axbridge, Somerset . .	1	0	0
Edwards, W. H. G. . . .	Butcombe Court, Wrington . . .	1	0	0
Eldridge, Pope, & Co. . .	Dorchester	1	0	0
*Elliott, H. E. Tracy . . .	9, St. James Terrace, Plymouth . .	2	2	0
Elliott, Sir Thomas H. . .	4, Whitehall Place, London, S. W. .	1	1	0
*Elton, Sir E., Bart. . . .	Clevedon Court, Clevedon	2	2	0
Enfield, Viscount	Dancer's Hill, Barnet	1	0	0
Ensor, T. & Son	Auctioneers, Dorchester	1	1	0
Esdaile, C. E. T.	Cothelstone House, Taunton . . .	1	0	0
Ettinger, F. K.	Cotswold Sanatorium, near Stroud .	1	0	0
Ettle, J., F.R.H.S.	1, Malvern View, Stanley Grove Road, Weston-super-Mare	1	1	0
Evans, D.	Ffrwdgrech, Brecon	1	0	0
Evans, H. M. Glynn . . .	Llangenneth Park, Llanelly . . .	1	0	0
†Evan-Thomas, Commander A.	Caerwnnon, Builth Wells, R.S.O. . .	..	
Evans, T. Lloyd	Crindan House, Newport, Mon. . .	1	1	0
†Eve, Mr. Justice	Pullabrook, Bovey Tracy, South Devon . . . . .	..	
Evered, P.	Milton Rocks, Dulverton	1	0	0

Name.	Residence.	Sub-
		scriptions.
		£ s. d.
Fardoe, M.	Woodram Farm, Pitminster, Taunton	1 0 0
Farmer, A. W.	Newport, Mon.	1 0 0
†Farmer, S. W.	Little Bedwin, Wilts . . . . .	..
†Farwell, E. W.	11, Laura Place, Bath . . . . .	..
Farwell, Capt. W.	The Priory, Burnham, Bucks	1 0 0
†Farwell, Right Hon. Sir Geo.	15, Southwell Gardens, London, S.W. . . . .	..
Fawkes, A.	Berwick S. John, Salisbury,	1 0 0
Fellowes, Right Hon. A. E.	Honingham, Norfolk	1 0 0
Fennell, E. and Sons	11, High Street, Newport (Mon.)	1 0 0
Fenton, A. D.	Maristow, Roborough, S. Devon	0 10 0
Finlay, Col. Alexander	Little Brickhill, Bletchley, Bucks	1 0 0
Fisher, The Right Rev. Bishop, D.D.	Burgh House, nr. Great Yarmouth, Norfolk	1 0 0
Fisher, Col. H. Oakdene	Ty Mynddi, Radyr, near Cardiff	1 0 0
*Fitzhardinge, Lord	Cranford House, Hounslow	2 0 0
Fletcher, C. E.	Kenward, Yalding, Maidstone	1 0 0
†Fletcher, Lionel J. W.	West Farleigh, Maidstone . . . . .	..
Fletcher, W. J.	The Chantry, Wimborne	1 0 0
Flower, James	Chilmark, Salisbury	1 0 0
Flower, Rev. Canon	15, Victoria Street, Dover	1 1 0
Flower, W. R.	West Stafford, Dorchester	1 0 0
Ford, A.	Wraxall Court, Nailsea, near Bristol	1 0 0
*†Forester, Capt. F. W.	Saxilbye Park, Melton Mowbray . . . . .	..
Forestier-Walker, I. A.	Walton House, Shirehampton, Bristol	1 0 0
Forrest, R.	St. Fagans, Cardiff	1 0 0
Foster-Harter, G. L.	Salperton Park, Haselton, R.S.O., Glos.	1 0 0
Foster, W.	Mel Valley, Wake Green Road, Moseley	1 0 0
†Fowler, G.	Claremont, Taunton . . . . .	..
Fowler, J., & Co. (Ltd.)	Leeds	1 0 0
Fowler, W. H.	Claremont, Taunton	1 0 0
Fownes, Col.	Manor House, Weston Bamp- fylde, Sparkford, Bath	1 0 0
Fownes, Mrs.	Manor House, Weston Bamp- fylde, Sparkford, Bath	1 0 0
Fox, Mrs. A.	Brislington House, near Bristol	1 0 0
Fox, Dr. A. E. W.	Ennox Lodge, Hinton Charter- house	1 1 0
Fox Brothers & Co.	Wellington, Somerset	1 1 0
Fox, C. L.	Rumwell Hall, Taunton	1 0 0
†Fox, Robert	Grove Hill, Falmouth . . . . .	..
Foxcroft, C. T.	Hinton Charterhouse, Bath	1 1 0
Foxcroft, E. T. D.	Hinton Charterhouse, Bath	1 1 0
†Franklen, Col. C. R.	Clemenstone, Bridgend . . . . .	..

Subscriptions.

clxiii

Name.	Residence.	Sub- scriptions.
		£ s. d.
Frayne, James . . .	Pipers Pool, Egloskerry, R.S.O., Cornwall	0 10 0
Fricke, J. A. . . .	Burton, Mere, Wilts	1 0 0
Frost, Adam E. . . .	Kemys, 53, Caeran Road, New- port, Mon.	1 0 0
Fry, H. A.	19, Monmouth Place, Bath . . .	1 0 0
*Fry, J. F.	Ford Abbey, Chard	2 0 0
Fuller, E. R.	Bathford, Bath	1 1 0
†Fuller, G. Pargiter . . .	Neston Park, Corsham . . . .	..
*Fuller, J. M., M.P. . . .	Neston Park, Corsham	2 0 0
Fuller, S. and A. . . .	Bath	1 0 0
Fursdon, Charles	Fursdon, Thorverton, Exeter . .	1 0 0
Fursdon, E. S.	Bellenden, Exeter	1 1 0
Fyson & Co., Limited . . .	Union Street, Bath	1 1 0
†Galloway, W. G. . . .	Cridland Farm, Spaxton, Bridg- water . . . . .	..
Gane, P. J.	Estate Office, Pickwick, Corsham, Wilts	1 0 0
Gardiner, Sons & Co. . . .	Nelson Street, Bristol	1 1 0
Garne, W.	Aldsworth, Northleach	1 1 0
Garne, W. T.	Aldsworth, Northleach	1 1 0
*Garratt, Lt.-Col. T. A. T. .	Bishop's Court, Exeter	2 2 0
Garraway, W. A.	Durdham Down Nurseries, Bristol R.S.O., Somerset	1 0 0
Garrett, W.	Backwell Hill House, West Town, R.S.O., Somerset	1 0 0
Garton, Jas.	Clarendon Park, Salisbury . . .	1 0 0
Garton, T. R.	Warrington	1 0 0
Gear, W. H.	Bridge Street, Bath	1 1 0
*†George, William E., J.P. .	Downside, Stoke Bishop, Bristol	..
Gerrish, J.	Chipping Sodbury	1 0 0
†Gibbons, B. G.	Sheephouse Farm, Camerton, Bath	..
Gibbons George.	Tunley Farm, near Bath	1 0 0
†Gibbons, H.	Church Farm, Clutton, Bristol . .	..
Gibbs, A. H.	Pytte, Clyst St. George, Topsham, Devon	1 0 0
†Gibbs, H. M.	Barrow Court, Flax Bourton, R.S.O. Somerset . . . . .	..

Name.	Residence.	Subscriptions.		
		£	s.	d.
Gibson, J. T.	Havyet Lodge, Langford, Bristol .	1	0	0
Gilbert, F. W. (Ld.)	Swarkestone, Derby	1	0	0
Gilbey, Sir W., Bart.	Cambridge House, Regent's Park, London	1	1	0
Gilchrist, Prof. D. A., B.Sc.	Armstrong College, Newcastle- on-Tyne	1	0	0
Gill, P. O.	Uplands, Wrington, Somerset .	1	0	0
Gillingham, J. and Son	Prospect House, Chard	1	0	0
†Gladstone, J.	Bowden Park, Chippenham . . . .	..	
Glantawe, Lord	The Grange, Swansea	1	0	0
Glyn, R. F.	Gaunt's House, Wimborne	1	0	0
*Glyn, Sir Richard G., Bart. .	Gaunt's House, Wimborne	2	2	0
†Godman, C. B.	Woldringfold, Horsham . . . . .	..	
Godman, J.	The Raswell, Hascombe, Godal- ming	1	0	0
†Goldney, Sir Prior, Bart., C.B.	Derriads, Chippenham . . . . .	..	
Gooch, G. P., M.P.	South Villa, Campden Hill Road, London, W.	1	0	0
Gooch, Sir. T. V. S., Bart. . . .	Benacre Hall, Wrentham, Suffolk .	1	1	0
Goodden, J. R. P.	Compton House, Sherborne	1	0	0
Goodman, Sons, Pollard and Bruford	3, Hammet Street, Taunton, and Broad Street House, London, E.C. .	1	0	0
Gordon, G. H.	Wincombe Park, Shaftesbury	1	0	0
Gore-Langton, Hon. H. P. . . .	Hatch Park, Taunton	1	0	0
Goring, C.	Wiston Park, Steyning	1	0	0
†Gorringe, Hugh	Kingston-by-Sea, Brighton . . . .	..	
Gould, J.	Pilton, Shepton Mallet	1	0	0
Grant, C. E.	Bursar, King's College, Cambridge .	1	0	0
Grant, W. J.	Pentonville, Newport, Mon.	1	0	0
Grant-Dalton, Col.	Evercreech	1	0	0
Greaves, R. M.	Wern, Portmadoc, North Wales . .	1	0	0
Green Price, Sir R. D., Bart. . .	The Grove, Presteign, Radnorshire .	1	0	0
†Greenall, Mrs. C. E.	Willoughby Hall, Grantham . . . .	..	
†Greenall, Sir G., Bart.	Walton Hall, Warrington . . . . .	..	
Greenfield, W. B.	Haynes Park, Bedford	1	1	0
Greenham, W. N.	Overton, West Monkton, Taunton . .	1	1	0
Greenslade, W. R. J.	Fairfield, Trull, Taunton	1	0	0
Greenway, W.	Halse, Taunton	1	0	0
Greenwell, W.	Marden Park, Woldingham, Surrey .	1	0	0
†Guest, Lady Theodore	Inwood, Templecombe . . . . .	..	
Guille, H. C. de Stevens	Little Torrington, Devon	1	0	0
Guise, Sir W. F., Bart.	Elmore Court, Gloucester	1	0	0
Guyon, Rev. H. C.	The Rectory, Lamyat, Bath	1	0	0

Subscriptions.

clxv

Name.	Residence.	Sub-
		scriptions.
		£ s. d.
Habgood, G.	Harley Lodge, Wimborne	1 0 0
Hadley, E. B.	Potash Syndicate, 110, Strand, London, W.C.	1 0 0
Hall, Crabtree and Heap	25, Price Street, Birkenhead	1 0 0
† Hambro, Everard A.	Hayes Place, Beckenham, Kent . . . . .	..
Hambro, H. C.	70, Old Broad Street, London, E.C.	1 1 0
Hancock, C. R.	The Ashlands, Warmley, near Bristol	1 0 0
Hancock, C. L.	Manor House, Cothelstone, Taun- ton	1 1 0
Hancock, Rev. Prebendary	The Priory, Dunster, Somerset	1 0 0
Hancock, H. C.	The Court, Milverton, Taunton	1 0 0
Hancock, P. F.	Culverhead, Wiveliscombe	1 0 0
Hancock, R. D.	Halse, Taunton	1 0 0
Hannam, T.	Westgate Hotel, Newport, Mon.	1 0 0
Harbin, Col. H. E.	Newton Summerville, Yeovil	1 0 0
Harbottle, E.	Topsham	1 0 0
Harding, C.	Upton Grove, Tetbury	1 0 0
Harding, T. K.	Ashton Gifford House, Codford, Bath	1 0 0
Harding, R.	Fenswood Farm, Long Ashton, Bristol	1 0 0
Hardwick, E. A.	Kewstoke, Weston-super-Mare	1 0 0
Hardy, Capt. E.	Lattiford, Wincanton	1 0 0
Hargreaves, F.	Merton Grange, Gamlingay, Cams.	1 0 0
Harris, A.	Brounsell Farm, Stourton Caun- dle, Stalbridge	1 0 0
Harris, Dr. Rutherford	Llangibby Court, Newport, Mon.	1 0 0
Harrison, Rev. H. L.	The Vicarage, Christchurch, New- port, Mon.	1 0 0
Harrison, G.	Gainford Hall, Darlington	1 0 0
Harrison, Miss	West Hay, Wrington	1 0 0
Harrison, McGregor & Co.	Leigh, Lancashire	1 0 0
Harwood, E.	Woodhouse, Almondsbury, near Bristol	1 1 0
Haslam, Lewis, M.P.	44, Evelyn Gardens, South Ken- sington, S.W.	1 0 0
Hatzfeldt, H.S.H. Prince	Draycott, Chippenham	1 1 0
Haversham, Lord	Trevina, Tintagel, Cornwall	1 0 0
Hawkins, Mrs.	10, Portland Place, London, W.	1 1 0
Hay, C. E.	Estate Office, Hanley Castle, Wor- cester	1 0 0
† Haydon, Lt.-Col. W. H.	Maidford, Malmesbury, Wilts . . . . .	..
Hayes, F. J.	West Pennard, Glastonbury	1 0 0
* Heathcoat-Amory, Sir J. H., Bart.	Knightshayes Court, Tiverton, Devon	2 2 0
Heathcoat-Amory, I. M.	Hensleigh, Tiverton, Devon	1 0 0

Name.	Residence.	Sub-
		scriptions.
		£ s. d.
Heberden, W. B., C.B.	Elmfield, Exeter	1 0 0
Henderson, Sir A., Bart.	Buscot Park, Faringdon, Berks	1 1 0
*†Henderson, W.	Berkeley House, Frome . . . . .	..
Henriques, Col. E. N.	Mursley Hall, Winslow, Bucks	1 0 0
Henry, Lt.-Col. F.	Elmstree, Tetbury	1 0 0
Herbert, Col. Sir Ivor, Bart., M.P.	Llanarth Court, Raglan, Mon.	1 0 0
Hesse, F. W.	Yeomans, Wrington, East Somerset	1 0 0
Hickley, H. N.	Newton Electrical Works, Taunton	1 0 0
†Hill, B. H.	Newcombes, Crediton, Devon . . . . .	..
Hill and Boll	Yeovil	1 1 0
Hill, Sidney	Langford House, Langford, R.S.O..	1 1 0
Hill, V. T.	Cardu House, Cyntwell, Glam.	1 1 0
Hillman, J.	3, Gracechurch St., London, E.C.	1 0 0
Hippisley & Sons	Wells, Somerset	1 0 0
Hippisley, R. J. B.	Ston Easton Park, Bath	1 0 0
Hiscock, A., jun.	Manor Farm, Motcombe, Shaftes- bury, Dorset	1 0 0
Hiscock, E.	Ashley Farm, Marnhull, Dorset	1 0 0
†Hoare, Sir H. H. A., Bart.	Stourhead, Bruton . . . . .	..
Hobbs, J. T.	Maisey Hampton, Fairford	1 0 0
Hobbs, R. W.	Kelmscott, Lechlade	1 0 0
Hobhouse, C. E., M.P.	The Ridge, Corsham, Wilts	1 0 0
*Hobhouse, Rt. Hon. H.	Hadspen House, Castle Cary	2 0 0
Hoddinott, S.	Worminster Farm, Shepton Mallet	1 0 0
*†Hodgson, J. Stewart	Lythe Hill, Haslemere, Surrey . . . . .	..
Holland and Coombs	Bristol	1 0 0
Hollond, J. R.	Wonham, Bampton, Devon	1 0 0
Holman, F. A.	Dunley Manor, near Whitchurch, Hants	1 0 0
Holt Needham, O. N.	Barton Court, Colwall, near Malvern	1 0 0
*Homelight Oil Co.	Gordon Chambers, Queen Street, Cardiff	2 2 0
Homer, J. P.	Doles Ash, Dorchester	1 0 0
Hood, Sir A. Acland, Bart., M.P.	St. Audries, Bridgwater	1 1 0
†Hooper, R. N.	Stanshawes Court, Chipping Sod- bury . . . . .	..
†Hope, W. H. B., M.P.	Eastwood, East Harptree, Bristol . . . . .	..
Hopper, H. R.	Merryweather & Sons, Greenwich Road, London, S.E.	1 1 0
Horlick, J., D.L.	Cowley Manor, Cheltenham	1 0 0
†Horner, Sir J. F. Fortescue	1, Whitehall Place, London, S.W. . . . .	..
Hornsby and Sons (Ltd.)	Grantham, Lincoln	1 0 0
Horton, Rev. Le G.	Wellow Vicarage, Bath	1 1 0
Hosegood, A. W.	Williton, Taunton	1 0 0

Subscriptions.

clxvii

Name.	Residence.	Subscriptions.		
		£	s.	d.
Hosegood, Obed., jun.	Dillington, Ilminster	0	10	0
Hosken, W. J. . . .	Pulsack, Hayle, Cornwall . . .	1	0	0
Hoskins, R. . . .	Beard Hill Farm, Shepton Mallet .	1	0	0
Hoskyns, H. W. P. . .	North Perrott Manor, Crewkerne, Somerset	1	0	0
Houldsworth, A. F. . .	Widcombe, Kingsbridge, Devon .	1	1	0
Houlton, W. . . .	Broadfield Farm, Northleach, R.S.O.	1	0	0
Hounsell, J. M. . . .	Wraxall Manor Farm, Cattistock, Dorset	1	0	0
Howard, J. and F. . . .	Britannia Works, Bedford . . .	1	0	0
*Howard, J. W. . . .	General Manager, Gloucester Carriage Works, Gloucester . .	2	2	0
Hubbard, W. E. . . .	Leonards Lee, Horsham	1	0	0
*Hudson, R. W. . . .	Danesfield, Great Marlow . . .	3	3	0
†Hughes, A. E. . . .	Wintercott, Leominster . . . .	..	
Hull, R.	Sutton Benger, Chippenham . .	1	0	0
Humphries, S. . . .	Chamber of Commerce, Bristol .	1	1	0
Hunt, A. E. Brooke . .	Merton Grange, Slough	1	0	0
Hunter, J.	Seed Merchant, Chester	1	0	0
†Hurle, J. C.	Brislington Hill, Bristol . . . .	..	
Hurman, J.	Lulcote, Llanisheen, near Cardiff .	1	0	0
Hurst and Son	152, Houndsditch, London . . .	1	0	0
†Hylton, Lord	Charlton, near Radstock . . . .	..	
Ibbotson, R.	The Hawthorns, Knowle, Warwick- shire	1	0	0
*Ilchester, Earl of . .	Melbury, Dorchester	2	2	0
Imbert-Terry, H. M. . .	Strete Raleigh, Whimble	1	0	0
Inglis, J. C.	General Manager, Great Western Rly., Paddington, London, W. .	1	0	0
Ingram, Lieut.-Col. R. B. .	Steyning, Sussex	1	1	0
Innes, G. P. Mitchell . .	Craig-yr-Haul, Castleton, Cardiff .	1	0	0
International Harvester Co. (Limited)	115, Southwark Street, London, S.E.	1	0	0
Irby, Hon. C.	Hitcham Grange, Taplow	1	0	0
Irby, Lieut.-Col. F. A. .	Boyland Hall, Norfolk	1	0	0
Irby, Hon. G. N. . . .	Porthamel, Llanfair, P.G., Angle- sey	1	0	0
Irby, Capt. L. P. . . .	Brook House, Eastry, Kent . . .	1	0	0
Ireland, A. C.	Brislington Hall, near Bristol . .	1	1	0
Jackson, Sir H. M., Bart.	Llantillio Court, Abergavenny . .	1	0	0
Jardine, E.	The Park, Nottingham	1	1	0
Jarmain, T. M.	Haseley Iron Works, Tetsworth . .	1	0	0
Jefferis, Mrs.	Royal Refreshment Rooms, Bristol	1	0	0
Jefferson, J.	Peel Hall, Chester	1	0	0

Name.	Residence.	Sub- scriptions.
		£ s. d.
Jenkin, S. W. . . .	Liskeard, Cornwall . . .	0 10 0
Jenkins, W. H. P. . . .	Frenchay Park, Bristol . . .	1 0 0
*Jersey, Earl of . . .	Middleton Park, Bicester, Oxon. . .	2 0 0
Jervoise, F. H. T. . . .	Herriard Park, Basingstoke . . .	1 1 0
Jeyes' Sanitary Com- pounds Company . . .	Cannon Street, London, E.C. . .	1 0 0
John, T. D. . . .	Chaldeans Stud Farm, St. Fagans, Cardiff . . .	1 1 0
John, E. . . .	Cowbridge, Glamorgan . . .	1 0 0
Johnson, F. J. . . .	Affpuddle, Dorchester . . .	1 0 0
Johnstone, G. W. P. . . .	110, Cannon Street, London, E.C. . .	1 0 0
Joicey, J. . . .	Poulton Priory, Fairford, Glos. . .	1 0 0
†Jonas, F. N. . . .	. . . . .	..
†Jonas, George	Old Vicarage, Duxford, Cambs. . .	..
†Jones, Henry Parr	Beaufort House, Winchester . . .	..
Jones, W. . . .	Heathlands, Cardiff . . .	1 0 0
Keel, W. W. . . .	Stanton Drew, Somerset . . .	1 0 0
Keene, James B. & Co. . . .	Journal Office, Bath . . .	1 0 0
Keene, Walter	Penn's Lodge, Brinkworth, near Chippenham . . .	1 0 0
Kell & Co. . . .	Gloucester . . .	1 0 0
Kelly, Capt. A. L. . . .	Cadbury House, Wincanton, Somerset . . .	1 0 0
Kelly, W. . . .	14, Victoria Road, Swindon . . .	1 0 0
Kemble, C. A. . . .	Hallatrow, Bristol . . .	1 0 0
†Kemp, L. J. . . .	Maer, Exmouth . . .	..
Kennaway, Rt. Hon. Sir J. H., Bart., M.P. . . .	Escot, Ottery St. Mary . . .	1 1 0
Kerr, J. G. . . .	Cholderton, Salisbury . . .	1 0 0
Kersley, R. . . .	The Priory, Bathwick Hill, Bath . . .	1 0 0
Kerton, C. . . .	Bridge Farm, West Lydford, Somerton . . .	1 1 0
†Kettlewell, W. W. . . .	East Harptree Court, Bristol . . .	..
*Keyser, C. E. . . .	Aldermaston Court, Reading . . .	2 0 0
Keyworth, J. and H. & Co. . . .	35, Tarleton Street, Liverpool . . .	1 0 0
Kidner, W. . . .	Fennington, Kingston, Taunton . . .	1 0 0
King, H. . . .	High Street, Tewkesbury . . .	1 1 0
King and Son, R. . . .	Milsom Street, Bath . . .	1 1 0
King, W. E. M. . . .	Donhead Lodge, Salisbury . . .	1 0 0
Kingscote, T., M.V.O. . . .	The Abbey, Cirencester . . .	1 0 0
Kingwell, H. J. . . .	Great Aish, South Brent, S. Devon . . .	1 0 0
Kinneir, H. . . .	Redville, Swindon . . .	1 0 0
Kinsey, T. . . .	Nantyffin Farm, Vochriw, Glam. . .	0 10 0
Knight, R. . . .	Troytes Farm, Tivington, Minehead . . .	0 10 0
†Knollys, C. R. . . .	The Grange, Alresford, Hants . . .	..
†Knox, E. . . .	Kilmersdon, Bath . . .	1 1 0
†Kruse, W. . . .	Park, Truro . . .	..

Subscriptions.

clxix

Name.	Residence.	Sub- scriptions.		
		£	s.	d.
+Lake, C.	Oakley, Higham, Kent . . . . .	..	
*Lansdowne, Marquis of	Bowood, Calne	2	0	0
Larkworthy, E. W.	Messrs. J. L. Larkworthy & Co., Worcester	1	0	0
†Latham, T.	Dorchester, Oxon . . . . .	..	
Laurey A.	Varful, Ludgvan, Long Rock, R.S.O., Cornwall	1	0	0
*Laverton, W. H.	Leighton House, Westbury, Wilts	2	0	0
Lawrence, J.	Stall Pitt's Farm, Shrivenham	1	0	0
Leach, J. B.	Allerford, Selworthy, Taunton	1	0	0
Lear, F. G.	The Court Farm, Rodley, West- bury-on-Severn, Glos.	1	0	0
Lee, Major-Gen. H. H.	The Mount, Dinas Powis, near Cardiff	1	0	0
Lees, Sir Elliott, Bart.	South Lychett Manor, Poole, Dorset	1	1	0
Legard, A. G.	Brow Hill, Batheaston	1	0	0
Leigh, F., F.R.C.V.S.	St. George's Road, Bristol	1	0	0
Lennard, Sir H., Bart.	Wickham Court, West Wickham, Kent	1	0	0
Lethbridge, Charles	Carlton Club, Pall Mall, London	1	0	0
Lethbridge, Sir Roper, K.C.I.E.	The Manor House, Exbourne, R.S.O.	1	1	0
*Lethbridge, Sir Wroth P. C., Bart.	Sandhill Park, near Taunton	2	0	0
*Lethbridge, W.	Wood, Okehampton	2	0	0
Leverton, W. A.	Columb John Farm, Stoke Canon, Exeter	1	0	0
Leverton, W.	Woolleigh Barton, Beaford, North Devon	0	10	0
Lewis, Sir W. T., Bart.	The Mardy, Aberdare	1	0	0
Lewis, Wm. and Son	Herald Office, Bath	1	0	0
†Ley, John Henry	Trehill, Exeter . . . . .	..	
†Leyland, C. J.	Haggerston Castle, Beal, North- umberland . . . . .	..	
Liddon, E., M.D.	Silver Street House, Taunton	1	0	0
Lipscomb, Godfrey	Margam Park, Port Talbot	1	0	0
†Lister, J. J.	Warninglid Grange, Haywards Heath . . . . .	..	
Lister, R. A., & Co.	Dursley, Gloucestershire	1	1	0
†Llangattock, Lord	The Hendre, Monmouth . . . . .	..	
Llewellyn, Col. Evan H.	The Court Farm, Langford, Bristol	1	1	0
Llewellyn, Llewellyn T. E.	Nanceglos, Hea Moor, R.S.O., Cornwall	1	1	0
*Llewelyn, Sir J. T. D., Bart.	Penllergare, Swansea	2	2	0
*Lloyd, Herbert	Plas Cilybebyll, Pontardawe, R.S.O., Glam.	2	2	0

Name.	Residence.	Sub- scriptions.
		£ s. d.
*†Long, Rt. Hon. Walter H., M.P.	Rood Ashton, Trowbridge . . . . .	..
Long, Col. William	Woodlands, Congresbury, Somerset	1 0 0
Longman, R.	Wraxall, Evercreech, Bath	1 0 0
Lopes, Sir H. Y. Buller, Bart.	Maristow, Roborough, Devon	2 0 0
Loram Brothers	Cathedral Dairy, Exeter	1 1 0
Lovelace, T.	Bratton Court, Minehead, Somerset	1 0 0
Lowe, S.	Weddell & Co., 16, St. Helens Place, London, E.C.	1 0 0
Ludlow, Lord	Heywood House, Westbury, Wilts	1 1 0
Lumley, M.	1, America Square, Minories, London, E.C.	1 0 0
†Lutley, J. H.	Brockhampton, Worcester . . . . .	..
Luttrell, Capt. A. F.	Court House, East Quantoxhead, Bridgwater	1 0 0
Luttrell, Claude F. M.	Gay Street, Bath	1 1 0
Luttrell, G. F.	Dunster Castle, Somerset	1 0 0
*MacAndrew, J. J.	Lukesland, Ivybridge	2 0 0
McCalmont, Major-Gen. Sir Hugh, K.C.B., C.V.O.	Mount Juliet, Kilkenny	1 0 0
McIntosh, Mrs. C. M.	Havering Park, Havering Atte Bower, Essex	1 1 0
Maclean, Donald, M.P.	46, Lincoln's Inn Fields, London, W.C.	1 0 0
McKendrick, A.	14, Victoria Road, Swindon	1 0 0
Major, H. J. and C. (Ltd.)	Bridgwater	1 0 0
Mallett, W. E.	The Octagon, Bath	1 0 0
Manfield, J.	Hambridge, Curry Rivell, Taunton	1 1 0
†Mansell, A. E.	Mount Vernon, Melton Mowbray, Tasmania . . . . .	..
Mansell, Col. R. H., J.P., D.L.	Maindiff Court, Abergavenny	1 0 0
Marcus M.	High Trees, Redhill, Surrey	1 0 0
Marden, H.	Ashwick, Dulverton	1 1 0
Marfell, R. H.	Great House Farm, Llangview, Usk	1 0 0
Marker, Richard	Combe, near Honiton	1 0 0
Marling, Col. P. S., V.C., C.B., J.P., D.L.	Sedbury Park, Chepstow	1 0 0
Marriner, C. F.	Thorpe Hall, Hasketon, Wood- bridge, Suffolk	1 0 0
Marshall, L. H.	Chippenham	1 0 0
Marshall, Sons & Co.	Britannia Iron Works, Gainsboro'	1 0 0
Martin, E. G. Bromley	Ham Court, Upton-on-Severn	1 0 0
Martin, J.	Thorverton, R.S.O., Devon	1 0 0

Subscriptions.

clxxi

Name.	Residence.	Sub- scriptions.
		£ s. d.
Martin and Carnes . . .	Taunton	1 0 0
Martyn, G.	Trewidden, Liskeard, Cornwall . .	1 1 0
*Maskelyne, N. Story, F.R.S.	Basset Down House, Swindon . . .	2 2 0
Mason, F. F.	Swansea	1 0 0
Massey-Harris Co. (Ltd.), (C. W. Dawkins, manager)	54 & 55, Bunhill Row, London, E.C.	1 0 0
Massie, J., M.P.	Reform Club, Pall Mall, London, S.W.	1 0 0
Master, Col. T. W. Chester	Knowle Park, Almondsbury	1 1 0
Masters A.	Lanelay Hall, Llantrissant, S. Wales	1 0 0
Mathews, Ernest	Little Shardeloes, Amersham, Bucks	1 0 0
Mathews, E. R. Norris, F.R.Hist.Soc.	Central Library, Bristol	1 0 0
Matthews, H.	Down Farm, Winterbourne, Bristol	1 0 0
Matthews, L. B.	Milton, Gillingham, Dorset	1 0 0
Mathias, W. H., J.P. . . .	Porth, near Pontypridd	1 0 0
Maule, M. St. John	Chapel House, Bath	1 0 0
May, A. C.	Avon House, Stoke Bishop, Bristol	1 0 0
Maynard, W. T.	Yeovil	1 0 0
†Mayo, Henry	28, Cornwall Road, Dorchester . .	..
†Mayo, John	Coker's Frome, Dorchester . . . .	..
Meade, F.	The Hill, Langport, Somerset . . .	1 0 0
Meade-King, W. O.	Walford House, Taunton	1 0 0
Meager, F. F.	Melbourne House, Swansea	1 0 0
Meddick, William G. . . .	11, Great Stanhope Street, Bath . .	1 0 0
Meek, A. Grant	Hillworth House, Devizes	1 1 0
Merry, Richard	Goulds, Broadclyst, Exeter	0 10 0
Merry, W. F.	Ash Clyst, Broadclyst, Exeter . . .	1 0 0
Merryweather, J. C.	4, Whitehall Court, London, S.W.	1 0 0
Methuen, General Lord, C.B., C.M.G.	Corsham Court, Wilts	1 0 0
*Michaelis, M.	Tandridge Court, Oxted, Surrey . .	2 2 0
Michie, D.	Tichborne Park Estate Office, Alresford, Hants	1 0 0
Mildmay, Capt. C. B. St. J. .	Hallam, Dulverton	1 0 0
†Mildred, G. B.	Newington House, Craven Arms, Shropshire . . . . .	..
Miles, A.	Winchcombe Street, Cheltenham . .	1 0 0
†Miles, Sir Henry, Bart.	Abbots Leigh, Bristol . . . . .	..
Millard, H.	Shrivenham, Berks	1 0 0
Millard, J. F.	Butleigh, Glastonbury	1 0 0
Millbank, Sir Powlett C. J., Bart.	Norton Manor, Priesteign	1 0 0
Miller-Hallett, A.	Goddington, Chelsfield, Kent . . .	1 1 0
Mills, B. W.	31, Cambridge Place, Paddington, London, W.	1 0 0
Milsom, C. and Son	9, Fleet Street, Swindon	1 1 0
Minton, T. S.	Montford, Shropshire, R.S.O. . . .	1 0 0

Name.	Residence.	Subscriptions.		
		£	s.	d.
Mitchell, A. C.	Highgrove, Tetbury	1	0	0
Mitchell, A. C.	London, City, and Midland Bank, Newport, Mon.	1	0	0
†Mitchell, F. J.	Llanfreckva Grange, Caerleon, Mon. . . . .	..	
Molassine Co.	36, Mark Lane, London	1	0	0
Montefiore, Mrs.	Worth Park, Crawley, Sussex	1	1	0
Montgomery, H. G., M.P.	Thornfalcon Cottage, nr. Taunton	1	1	0
Moody, C.	Maismoor, Evercreech	1	0	0
Moore-Gwyn, J. E.	Dyffryn, Neath, Glamorgan	1	0	0
†Moore, H. F.	42, Angell Road, Brixton, London, S.W. . . . .	..	
Moore, J.	The Retreat, Dulverton	1	0	0
Moore, W. and Son	9 and 10, Monmouth Street, Bath	1	0	0
Moore-Stevens, Col. R. A.	The Cross, Torrington, Devon	1	0	0
Morel, C. E.	The Lindens, Penarth, Cardiff	1	0	0
*Moreton, Lord	Sarsden Lodge, Chipping Norton	2	2	0
*Morgan, Hon. F. C.	Ruperra Castle, Newport, Mon.	2	0	0
Morgan, T. S.	Whimble House, Whimble, Exeter	1	0	0
Morgan, W. A.	Broadleys, Denbigh, N. Wales	1	1	0
Morgan-Richardson, C.	Morgenan, Rhoshill, R.S.O.	1	0	0
*Morley, Earl of	Saltram, Plympton, Devon	2	0	0
Morley, Charles	Shockerwick, Bath	1	1	0
Morris, P.	Widemarsh Street, Hereford	1	0	0
Morris and Griffin (Ltd.)	Maindee, Newport, Mon.	1	1	0
Morris, Sir R. A., Bart.	Sketty Park, Swansea	1	0	0
Morris, Son and Peard	Auctioneers, North Curry, Taunton	1	0	0
Morris, W.	4, Norton Road, Hove, Brighton	1	0	0
†Morrison, J. A.	Fonthill House, Tisbury, Wilts . . . . .	..	
Morse, L. L., M.P.	The Croft, Swindon	1	0	0
*Mount-Edgcumbe, Earl of	Mount Edgcumbe, Devonport	2	2	0
Mountstevens, J.	Railway Hotel, Yatton	1	0	0
†Mucklow, E., J.P.	Woodhill, Bury, Lancashire . . . . .	..	
Muntz, F. E.	Umberslade, Hockley Heath, War- wickshire.	1	0	0
Muntz, J. O.	Goodameavy, Yelverton	1	0	0
Muntz, Sir P. A., Bart., M.P.	Dunsmore, near Rugby	1	0	0
Murray-Anderdon, H. Edwd.	Henlade House, Taunton	1	1	0
Naper, Col. W. D.	2B, Dawson Place, Hyde Park, London, W.	1	0	0
Napier, H. B.	Ashton Court Estate Office, Long Ashton, Bristol	1	1	0
Neagle, D. T.	London, Glos. and N. Hants Dairy Company, Clifton, Bristol	1	0	0

Subscriptions.

clxxiii

Name.	Residence.	Sub- scriptions.
		£ s. d.
Neal, J. F.	Kingsdon, Taunton	1 1 0
Neeld, Sir A. D., Bart., C.B.	Grittleton, Chippenham	1 0 0
Nelder, C. W.	Carnarvon Arms, Dulverton, Somerset	0 10 0
†Neville-Grenville, Robert . .	Butleigh Court, Glastonbury . . . . .	..
†Newton, J. G.	Millaton House, Bridestowe, Devon . . . . .	..
Nichols, G.	49, Broad Street, Bristol	1 0 0
Nickisson, J. L.	Hinton Manor, Swindon	1 0 0
Nix, J.	Tilgate, Crawley, Sussex	1 1 0
Nock, E.	Brockton House, Shifnal, Salop	1 0 0
Nock, R. B.	48, Queen St., Wolverhampton	1 0 0
Norman, H. T.	Cushuish, Kingston, Taunton	1 0 0
*Normanton, Earl of	Somerley, Ringwood	2 0 0
Norrish, E. C.	Gays, Copplestone, N. Devon	1 0 0
Norrish, Thomas	Churchill Farm, Loxbeare, Tiverton	0 10 0
North, G. F.	Stratfield Saye, Mortimer, R.S.O., Berks.	1 0 0
Northcote, Rt. Hon. Lord . .	25, St. James's Place, London, S.W.	1 0 0
*Northumberland, Duke of . .	Albury Park, Guildford	5 0 0
Oakley, H. E.	Dewstow, near Chepstow	1 1 0
*Oliver, J.	17, Whiteladies Road, Bristol	2 0 0
Olver, R. S.	Par Station, Cornwall	1 1 0
*Onslow, Earl of, G.C.M.G. . .	7, Richmond Terrace, Whitehall, London, S.W.	2 0 0
Osborn, C.	Woolston, North Cadbury, Bath	1 0 0
Osborne, J.	9, Clifton Park, Clifton	1 0 0
Osmond and Son	Spalding	1 0 0
Paget, A. B.	Oakhill, near Bath	1 0 0
Paget, L. C.	Harewood, Leeds	1 0 0
Pain, W. H.	High House, Kingsbridge	1 0 0
Palmer, R. W.	Marlston Lodge, Newbury	1 0 0
†Palmer, R.	Lodge Farm, Nazeing, Waltham Cross, Essex . . . . .	..
Palmer, Stuart	South Bank, Hewelsfield, Coleford, Glos.	1 0 0
Parfitt, T.	Spargrove, Evercreech	1 0 0
†Parker, Hon. Cecil	Eccleston Paddocks, Chester . . . . .	..
Parker, F. J.	Plymouth Street, Swansea	1 0 0
Parker, Col. R. J. H.	Bywood Cottage, Woolston, Southampton	1 0 0

Name.	Residence.	Subscriptions		
		£	s.	d.
Parkin, P. W. . . . .	. . . . .	1	0	0
Parmiter, P. J. & Co.	Tisbury, Wilts	1	0	0
Parry, Okeden E.	Moreton, Dorset	1	0	0
Parry Okeden, Lieut.-Col. U. E. P.	Turnworth, Blandford	1	0	0
†Parsons, J. D. Toogood, jun.	Manor View, Rusthall, Tunbridge Wells . . . . .	..	
†Parsons, R. M. P.	Misterton, Crewkerne, Somerset . . . . .	..	
Peacock, E.	Bewdley Villa, Bath	1	0	0
Peake-Mason, W. J.	The Manor House, Trent, Sherborne	1	0	0
Pearse, T. J.	Leigh Farm, Dulverton	1	0	0
Peel, Mrs.	Coombe Lodge, Bruton	1	0	0
Pember, G. H. . . . .	. . . . .	1	0	0
*Pembroke, Earl of	Wilton House, Salisbury	2	0	0
Penberthy, Professor J., F.R.C.V.S.	Dean Hall, Newnham, Glos.	1	0	0
Pendarves, W. Cole	Pendarves, Camborne, Cornwall	1	1	0
Penry, Capt. Morgan, J.P.	The Elms, Olveston, Torkington, Gloucester	1	0	0
Percival, P.	Manor House, Berrow, Burnham	1	1	0
Perkins, Col. E. K.	Shales, Bitterne, Hants.	1	1	0
*Perkins, H. F.	Handnock Court, Monmouth	2	2	0
†Perry-Herrick, Mrs.	Beau Manor Park, Loughborough . . . . .	..	
Petherick, R.	Acland Barton, Landkey, Barnstaple	0	10	0
Petter, J. B., and Son	Yeovil	1	0	0
†Pettifer, T. Valentine, F.R.C.V.S.	The Limes, Tetbury, Gloucester . . . . .	..	
†Phillips, C. D.	The Gaer, Newport, Monmouth . . . . .	..	
Phillips, Chas. D., jun.	The Tors, Caeran Road, Newport, Mon.	1	1	0
Phillips, F.	Shipton Sollars, Andoversford	1	1	0
Philp, Capt. F. L. . . . .	. . . . .	1	1	0
Phipps, C. N. P.	Chalcot, Westbury, Wilts	1	1	0
Piggott Brothers & Co.	59, Bishopsgate Street Without, London, E. C.	1	0	0
Pillers, W. A.	Managing Director, Radnorshire Polo and Riding Pony Co. (Ltd.), Lodge Stud Farm, Keynsham	1	0	0
Pilliner, A. M., J.P.	Llanyravon, near Newport, Mon.	1	0	0
Pinney, F.	The Grange, Somerton, Somerset	1	0	0
†Pinney, R. W.	Rockwood, West Byfleet, Surrey . . . . .	..	
Pitts, A. G.	The Firs, Highbridge	1	0	0
Plumptre, H. F.	Goodnestone, Dover	1	0	0
*Plymouth, Earl of	Hewell Grange, Bromsgrove	4	0	0
Pole-Carew, A. E.	Park Hill, Little Hempston, Totnes	1	0	0
*Poltimore, Lord	Poltimore Park, Exeter	3	3	0
Polwhele, Thos. R.	Polwhele, Truro	1	1	0

Subscriptions.

clxxv

Name.	Residence.	Sub- scriptions.
		£ s. d.
Ponter, E.	9, 10 and 11, Queen Square, Bath	1 0 0
Poole, Mrs. A. R.	King's Hill, Dursley	1 1 0
Pope, Alfred	Dorchester	1 0 0
Pope, A. R.	Culliford House, Dorchester	1 0 0
Pope, F.,	Toller Porcorum, Maiden Newton	1 0 0
Pope, John	Nowers, Wellington, Somerset	1 0 0
Porter, W. J. H.	Glendale Farm, Wedmore	1 0 0
†Portman, Hon. C. B.	Child Okeford, Blandford, Dorset . . . . .	..
Portman, Hon. Mrs. C. B.	Child Okeford Manor, Blandford	1 0 0
†Portman, Hon. E. W. B.	Hestercombe, Taunton . . . . .	..
*Portman, Viscount	Bryanston, Blandford	5 0 0
Power T.	Dungarvan	1 0 0
*Poynder, Sir J. Dickson, Bart., M.P.	Hartham Park, Corsham	2 0 0
Price, Owen	Nantyrharn, Cray, Brecon	1 0 0
Pritchard, H. L.	Penmaen, R.S.O., Glam.	1 0 0
Pritchard, D. F., J.P.	Crumlin Hall, Crumlin, Mon.	1 1 0
Proctor, H. and T.	Cathay, Bristol	1 1 0
Puddicombe, W.	29, Walters Road, Swansea	1 0 0
Pullen, W. B.	The Ton, Tredunnock, near Newport, Mon.	1 0 0
†Purgold, A. D.	Ebnal Lodge, Gobowen, Salop . . . . .	..
*†Radnor, Earl of	Longford Castle, Salisbury . . . . .	..
†Ransome, B. C.	Orwell Works, Ipswich . . . . .	..
Ransome, E. C.	Orwell Works, Ipswich	1 0 0
Ranson, E.	Cattistock, Dorset	1 0 0
Rawlence, Ernest A.	Newlands, Salisbury	1 0 0
Rawlins, Col. H. de C.	Manor House, Bishops Hull, Taun- ton	1 0 0
Read, B.	Church Farm, Cam, Dursley, Gloucester	1 0 0
Rees, W. J.	Laurels, Swansea	1 1 0
Reeves, H.	Emsworth, Hants	1 0 0
Reeves, Robert and John, and Son	Bratton Iron Works, Westbury, Wilts	1 0 0
Rhoades, W. W.	Alnwick Castle Estate Office, Bailiff Gate, Alnwick	1 0 0
Rice H. E. H.	Dene Court, Dover	1 0 0
Richards, T. B.	East Pennard, Somerset	1 0 0
Richardson, Rev. A.	Combe Down Vicarage, Bath	1 0 0
Ridler, J.	Blackford, Selworthy, Minehead	1 0 0
Roberts, J. D. Cramer	Thornton, Frant, Sussex	1 1 0
Roberts, J. and Son	Bridgwater	1 1 0
Robins, J.	High Bray, South Molton	0 10 0

Name.	Residence.	Subscriptions.		
		£	s.	d.
Robinson, S.	Lynhales, Kington, Herefordshire	1	0	0
Robinson, John & Co.	Bristol	1	1	0
Roderick, W. Buckley	Llanelly	1	0	0
Roe, W. J.	West Pennard, Glastonbury	1	0	0
Rogers, E.	Erlestoke, Devizes	1	0	0
Rogers, E. P.	Burncoose, Perranwell, Cornwall	1	0	0
Rogerson, R. W.	Ward and Co., Northgate Street, Bath	1	0	0
Rolleston, Col. V., J. P.	Saltford House, near Bristol	1	1	0
Rootes, C.	Distillery, Hereford	1	0	0
Rossiter, James	West Town, R.S.O., near Bristol	1	0	0
Rothschild, Lord	Tring Park, Herts	1	0	0
Rouse-Boughton, Sir. W. St. A., Bart.	Downton Hall, Ludlow	1	0	0
Rout, F. R.	Banham, Attleborough, Norfolk	1	0	0
Rowliffe, E. L.	Hall Place, Cranleigh, Guildford	1	1	0
Royal Guernsey Agricultural and Horticultural Society	Guernsey	1	0	0
Ruston, Proctor & Co.	Lincoln	1	0	0
Rutherford, J. A.	Highclere Estate Office, Newbury, Berks	1	0	0
Saillard, P.	Buchan Hill, Crawley, Sussex	1	0	0
St. Aubyn, Col. E.	Glyn, Bodmin Road, Cornwall	1	0	0
*Saint Germans, Earl of	Port Elliot, St. Germans, R.S.O., Cornwall	3	3	0
†Salmon, H. C.	North Fields, Bridgwater . . . . .	..	
Salmon, W.	Yonder Broadpool Farm, Doultling, Shepton Mallet	1	0	0
Salomons, L.	Norbury Park, Dorking, Surrey	1	0	0
Salter, Benjamin	Newlands, Broadclyst, Exeter	1	0	0
Salter, T.	Beare Farm, Boardclyst, Exeter	1	0	0
Sampson, W. W.	Mappercombe, Bridport	1	0	0
Samuelson, Ernest	Bodicote Grange, Banbury	1	1	0
Sanders, R. A.	Court, Exford, Taunton	1	0	0
Sanford, Col. E. C. A., C.M.G.	Nynehead, Wellington, Somerset	1	0	0
Sanford, H. S. J. A.	The Court House, Middlehill, Broadway, Worcestershire	1	0	0
Sankey, R. I.	6, Park Hill Rise, East Croydon	1	0	0
Scobell, Col. Barton L. J.	Kingwell Hall, High Littleton, near Bristol	1	1	0
Scott, A.	Jordan Farm, Preston, Weymouth	1	0	0
†Scott, T.	Ditton Court, Maidstone . . . . .	..	

Subscriptions.

clxxvii

Name.	Residence.	Sub- scriptions.		
		£	s.	d.
Scott, W. M.	Nether Swell Manor, Stow-on-the-Wold	1	1	0
Search, Miss B. . . . .	. . . . .	1	0	0
†Seaton, Lord	Beechwood, Plympton, Devon . . . . .	..	
Sedgwick, T. E.	10, Maldon Road, Acton, London, W.	1	0	0
Selby, W. J.	Wychanger, Luccombe, Allerford by Taunton	1	0	0
Senior and Godwin	Auctioneers, Sturminster Newton, Dorset	1	1	0
Shakerley, Col. H. W.	Glebelands, Wokingham	1	0	0
†Shaw-Stewart, Walter R.	Hayes, Shaftesbury . . . . .	..	
*Shelley, Sir John, Bart.	Shobrooke Park, Crediton	2	2	0
†Sherston, Major C. D.	Evercreech, Somerset . . . . .	..	
†Sherston, C. J. T.	Evercreech, Somerset . . . . .	..	
†Sherston, T. P. D. . . . .	. . . . .	..
*Shiner and Winter	Yatton, Somerset	2	2	0
Shore, J. H.	Whatley House, Frome	1	0	0
Shum, F., F.S.A.	Norfolk Crescent, Bath	1	0	0
Silcock, T. B., M.P.	Walden, Widcombe Hill, Bath	1	0	0
Sillifant, A. O.	Culm Leigh, Stoke Canon, Exeter	1	0	0
Simonds, L. de L.	Audley's Wood, Basingstoke	1	1	0
*Simpson, Charles (Hewthorn & Co.)	Walton Lodge, Broxbourne, Herts.	2	0	0
Simpson, F. C.	Maypool, Churston Ferrars, R.S.O., S. Devon	1	0	0
Sinclair, James	8, Breams Buildings, Chancery Lane, London, E.C.	1	0	0
*†Singer, A. M. . . . .	. . . . .	..
*Singer, W. M. G.	Streatfield, Paignton, Devon	2	0	0
Skrine, Col. H. M.	Warleigh Manor, Bath	1	1	0
Slatter J.	Paxford, Campden, S.O., Glos.	1	0	0
Smail, J. F.	Warren Wood, Hayes, Kent	1	1	0
Smart, G. E.	Combe Hay Manor, Bath	1	1	0
Smith, A. J.	Brooklea, Brislington, Bristol	1	0	0
Smith, Hugh C.	Mount Clare, Roehampton	1	0	0
Smith, H. S.	Eton Villa, Fishponds, Bristol	1	0	0
Smith, J.	Monkton, near Hereford	1	0	0
†Smith, J. W.	Thinghill Court, Hereford . . . . .	..	
Smith, Hon. Mrs. Murray	Gumley Hall, Market Harborough	1	0	0
†Smith, S. Lee	Larkfield, Maidstone . . . . .	..	
*Smith, Hon. W. F. D., M.P.	Greenlands, Henley-on-Thames	5	0	0
Smith, Barry J. H.	Stowell Park, Pewsey, Wilts.	1	0	0
*Smyth, Lady	Ashton Court, Bristol	2	2	0
Smyth, P.	Broford, Dulverton	1	0	0
Smyth-Osbourne, J. S.	Ash, Iddesleigh, N. Devon	1	0	0
Snow, Major A. D.	22, Upper Belgrave Road, Clifton, Bristol	1	1	0
Solley, G. C.	Eastry Road, Sandwich, Kent	0	10	0
*Somerset, Duke of	Maiden Bradley, Bath	2	0	0

Name.	Residence.	Subscriptions.		
		£	s.	d.
Somerset Trading Co. . .	Bridgwater	1	1	0
†Somerville, A. F. . . .	Dinder House, Wells, Somerset . .	..	
Southwell, F. C. & Co., (Limited)	75, Southwark Street, London, S.E.	1	0	0
Spear Brothers and Clark (Limited)	Southgate Street, Bath	1	0	0
†Spearman, Sir J. L. E., Bart.	The Lodge, Gullane . . . . .	..	
Speke, W., jun.	Jordans, Ilminster	1	1	0
Spencer, F.	Pondsmead, Oakhill, near Bath . .	1	1	0
Spencer, W. C.	North Perrott, Crewkerne	1	0	0
Spicer, Capt.	Spye Park, Chippenham	1	0	0
Spicer, Lady M.	Spye Park, Chippenham	1	0	0
Spire, Joseph	High Street, Glastonbury	1	0	0
Spratts' Patent (Limited)	24 and 25, Fenchurch Street, City, London, E.C.	1	0	0
Spurway, Rev. E. P. . . .	Heathfield Rectory, Taunton	1	0	0
Staley, A. E.	Combe Hill House, Barton St. David, Somerton, Somerset	1	0	0
Stark, R. . . . .	. . . . .	1	0	0
Starkey, T.	Woodville, Ilfracombe	1	0	0
Stephens, H. C.	Avenue House, Finchley, N.	1	0	0
Stephens, W.	St. Maurice House, Plympton, Devon	1	0	0
Stepney, Sir A. C., Bart. .	The Dell, Llanelly	1	1	0
Stevens, R. N.	Woodham Hall, Woking, Surrey . .	1	0	0
Stevens, W.	Budlake, Broadclyst, Exeter	1	0	0
Stoffell, W. M.	The Grove, Bathwick Hill, Bath . .	1	1	0
Stokes, C. W. Rees	Town Clerk, Tenby	1	1	0
Stone, John S.	Clarence Place Works, Newport, Mon.	0	10	6
Stone, Thos.	Axminster	1	0	0
Storror, J.	Grittleton, Chippenham	1	0	0
Stothert, P. K.	Bradford-on-Avon, Wilts	1	0	0
†Strachey, Sir E., Bart., M.P.	Sutton Court, Pensford, Somerset . .	..	
Strangways, Hon. H. B. T.	Shapwick, Bridgwater	1	0	0
Stratton, F.	Machen Pläs, Machen, Mon.	1	0	0
Stratton, Richard	The Duffryn, Newport, Mon.	1	0	0
Strode, G. S. S.	Newnham Park, Plympton	1	0	0
Studdy, T. E.	Mazonet, Stoke Gabriel, Totnes . .	1	0	0
Studley, J.	Toller Fratrum, Maiden Newton . .	1	0	0
Studts, H.	Swansea	1	1	0
*Sutton, Martin J.	Holme Park, Sonning, Berks. . . .	2	0	0
*Sutton and Sons	Seedsmen, Reading	2	2	0
Swanwick, Bruce	R. A. College Farm, Cirencester . .	1	0	0
Swanwick, R.	College Farm, Cirencester	1	0	0
Swithinbank, H.	Denham Court, Denham, Bucks . .	1	0	0
Syer, J. W. B.	Holyrood House, Chard	1	0	0
Symons, J. & Co. (Ltd.) .	The Plains, Totnes	1	1	0

Subscriptions.

clxxix

Name.	Residence.	Sub- scriptions.		
		£	s.	d.
Talbot, Miss	Margam Park, Port Talbot	1	0	0
Tamlin, W.	Talbot House, Stanley Road, Teddington, Middlesex	1	0	0
Tangyes (Limited)	Cornwall Works, Birmingham	1	0	0
Tapp, David James	Knaplock, Winsford, Dulverton	1	0	0
Tapp, J. A.	Knaplock, Dulverton	1	0	0
Tate, J. A.	Fairfield, Wells, Somerset	1	0	0
Tatem, W. J.	Shandon, Penylan, Cardiff	1	1	0
Tavener, G. E.	Budlake, Devon	1	0	0
Tayleur, C. W.	Hampton, St. Mary Church, Tor- quay	1	0	0
Taylor, Alfred	New Bond Street, Bath	1	0	0
†Taylor, George	Cranford, Hounslow, W. . . .	..	..	..
Taylor, H. W.	Showle Court, Ledbury, Hereford	1	0	0
†Tazewell, W. H.	Manor House, Taunton . . . .	..	..	..
*Temple, Earl	Newton St. Loe, Bath	2	0	0
Templeman, G. D. . . .	Hambridge, Curry Rivel, Taunton	1	0	0
Thomas, D. A., M.P. . . .	Llanwern, Newport	1	0	0
Thomas, Sir Griffith	Court Herbert, Neath	1	0	0
Thomas, I.	Ely Farm, Cardiff	1	0	0
Thomas, J. C.	The Lodge, Colyford, Axminster	1	0	0
Thompson J. W. H., M.P. . . .	115, St. James's Court, London, S.W.	1	1	0
Thomson, Sir R. White	Broomfield Manor, Exbourne, N. Devon	1	0	0
Thorley, J.	Oakhill, High Barnet	1	0	0
Thorne, J.	West Yard, N. Molton	0	10	0
Thorne, J. G.	Horridge, Romansleigh, S. Molton	0	10	0
Thresher, E. B.	Corfe Hill, Weymouth	1	0	0
Thring, D. T.	Boughton House, near Kettering	1	1	0
Throckmorton, Sir N. W., Bart.	Buckland, Faringdon, Berks	1	0	0
Thurlow, G. R.	Stowmarket	1	0	0
*Thynne, Lord A. . . .	48, Berkeley Square, London, W. . . .	2	0	0
Tidswell, R. J.	Haresfield Court, Stonehouse, Glos. . . .	1	0	0
Till, E. D.	The Priory, Eynsford, Kent	1	1	0
Tilley, W. T. S.	East Compton, Shepton Mallet	1	0	0
Tipper, B. C., and Son	Balsall Heath, Birmingham	1	0	0
Titt, J. W.	Implement Maker, Warminster	1	0	0
Tod, T. F.	Bradford Peverell, Dorchester	1	0	0
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clxxxi

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clxxxiii

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INDEX.

- ACID CURD, 94
Adulteration of Butter, 102
Agricultural Botany, 209
— Research, 189
Allotments, 32
"Alphabet of Gardening," Review, 213
Analyses of Cider, 137
Annual Exhibitions, xcv.
— Report, by T. F. Plowman, 104
Apple-Mill Tests, 152
Apple Sucker, 221
Argentina, Sheep in, 23
Ashcroft W., Report of Experiment
upon the Production of Mutton,
109
Australia, Sheep in, 24
Austria-Hungary, Sheep in, 26
"BACK TO THE LAND," 33, 41
Bacteria, 54, 210
—, How they feed, 55
— of the Soil, 194
Baker, G. E. Lloyd, on International
Dairy Congress, 102
—, on Small Holdings in
Denmark, 45
Barker, B. T. P., Report on Cider
Institute, 145
Basic Slag, 115, 224
Bear, W. E., on Prospects for Small
Holders, 29
Best, Captain The Hon. J. C., In
Memoriam, 1
Black-faced Sheep, 20
Blending Cider, 150
Bordeaux Mixture, 220
Botanical Privileges for Members, ci
Botanist, Report of Consulting, 165
Botany, Agricultural, Review, 209
Bread, 223
Brewers' Grains as food for Stock, 173
British Forestry, W. R. Fisher, M.A.,
on, 63
Butter, Adulteration of, 102
Butter, Flavour in, 57
Butter-Making, Prizes awarded for, lxiv
—, Fifty years ago and now, 90
—, Prizes for, in 1908, cxix
Butter, Prizes awarded for, lxi
—, Prizes for, 1908, cxviii
— Test Classes at Newport, 131
— Worker, The, 62
CAERPHILLY CHEESE, 121
Canada, Sheep in, 25
Carruthers, W., Report of Consulting
Botanist, 165
Cattle, Prizes awarded to, xix
—, Prizes for, cix
Central Meat Market, 11
Cheese and Butter "Starter," 101
Cheesemaking, Fifty years ago and
now, 90
Cheese, Prizes awarded for, lx
—, Prizes for 1908, cxvii
Chemical Privileges for Members,
xcvii
Chemist, Report of Consulting, 165
Cherry Leaf Scorch, 191
Cheviot Sheep, 20
Chicken Rearing, 219
Churn, Ventilating the, 58
Cider, Analyses of, 137
—, at Newport, 135
—, Prizes awarded for, lviii
—, Prizes for 1908, cxvii
— Institute, Report on, by B. T. P.
Barker, 145
Committees, 1907-1908, xcii
Composition of Brewers' Grains, 174
— of desiccated Brewers' Grains,
176
Consulting Botanist, Report of, 165
— Chemist, Report of, 165
Control of Fermentation, 154
Co-Operative Banking, Review, 211
Coppice, 69, 78
— with Standards, 80
Cotswolds, 15
Council, Members of, xci
Country Readers, Review, 222
Cows, Sterility in, 167
Cream-Cheese, Prizes awarded for,
lxi
Cream going to sleep, 58
—, Prizes awarded for, lxi
Cundall, H. M., on Nature Study
Exhibition, 138
DAIRY COWS IN SUMMER, 194
Dairy Farming, Fifty years ago and
now, J. P. Sheldon on, 86
Dairying, Faults and Fallacies in, F. J.
Lloyd on, 53

- Denmark, Small Holdings in, G. E. Lloyd-Baker on, 45
 Derbyshire Cheese, 100
 Devon Long-wool Sheep, 16
 Dorchester Meeting, Judges at, cii
 Dorset Horn Sheep, 21
 Douglas Fir, 76
- ENCYCLOPÆDIA OF AGRICULTURE,
 REVIEW, 207
 Entries at Newport, 126
 Enzymes, 210
 Ettle, J., Report on Fruit and Cider
 Institute, 145, 162
 Exhibition at Newport, T. F. Plowman
 on, 126
 Experiments on Caerphilly Cheese, 121
 — for the Improvement of Per-
 manent Pasture, E. A. Rawlence
 on, 120
 —, Poultry, 49
 — upon the Production of Mutton,
 W. Ashcroft on, 109
- FARWELL, E. W., ON CIDER AT
 NEWPORT, 135
 Fat in Milk, 53
 — Lamb Production, 186
 Faults and Fallacies in Dairying, F. J.
 Lloyd on, 53
 Feeding Stuffs, Guide to Purchasers
 of, xcvi
 — —, Manurial value of, 199
 Fermentation, Control of, 154
 Ferments, 103
 Fertilisers and Feeding Stuffs Act, 201
 —, Guide to Purchasers of, xcvi
 Field Experiments, 223
 Filtration, 157
 Financial Statements for 1907, cxxxv
 Fisher, W. R., on British Forestry, 63
 Flavour in Butter, 57
 Flower Garden, The, Review, 215
 Forestry Exhibition, The Society's,
 George Marshall on, 141
 —, Instruction in, 85
 France, Sheep in, 26
 French Forestry, 65
 Fruit and Small Holdings, 36
 — Farm, Woburn Experimental,
 219
 — Pests, 161
 Fungi, 210
- GARDENING, ALPHABET OF, REVIEW,
 213
 Gardening Year Book, Review, 214
- Germany, Sheep in, 25
 Grapes, and How to Grow Them.
 Review, 215
 Green Manuring, 170
- HAMPSHIRE DOWN SHEEP, 18
 Holland, Sheep in, 25
 Honey, Prizes awarded for, lx
 Honorary Officials, xciv
 Horses, Prizes awarded to, iv
 —, Prizes for 1908, civ
- IMPLEMENTS AT NEWPORT, 128
 Imports of Mutton, 8
 Increase of Live Weight in Sheep, 111
 Incubators, Management of, 219
 Insecticides, 220
 Instructions for selecting samples for
 Analysis, xcix
 Instruction in Forestry, 85
 International Dairy Congress, G. E.
 Lloyd Baker on, 102
- JUDGES AT DORCHESTER MEETING, cii
 Judges at Newport (Mon.), 1907, i
- KENT LONG-WOOL SHEEP, 15
- LACTIC ACID BACILLUS, 97
 Laws of the Society, lxxxvi
 Leicester Sheep, 13
 Lincoln Sheep, 14
 Live Stock, Regulations for, cxxi
 Live Weight, Increase of in Sheep, 111
 Lloyd F. J., on Faults and Fallacies in
 Dairying, 53
- MAMMARY TUBERCULOSIS, 204
 Management of Incubators, 219
 Manurial Value of Feeding Stuffs, 199
 Mares, Sterility in, 167
 Market Gardening on Small Holdings,
 36
 Marshall, G., on Forestry Exhibition,
 141
 Mathews, Ernest, on Caerphilly Cheese
 Experiments, 121
 Mathews, Ernest, on Milk and Butter
 Test Classes, 130
 Matthews, A. T., on Sheep Stocks of
 the World, 6
 Members, Botanical Privileges of, ci
 —, Chemical Privileges of, xcvi

Members, List of 1908, clii
 — of Council, xci
 Membership, Objects of, lxxxiv
 —, Privileges of, lxxxiv
 —, Terms of, lxxxv
 Metropolitan Cattle Market, 11
 Milk, 91
 — and Butter Test Classes, 130
 —, Fat in, 53
 —, Pasteurising, 103
 —, Records, 177
 — Test Classes at Newport, 132
 Milking, Prizes awarded for, lxxii
 Mutton, Imports of, 8
 —, Prices of, 9

NATURE STUDY EXHIBITION, 138
 Newport, T. F. Plowman on Society's
 Exhibition at, 126
 —, Entries at, 126
 —, Prizes at, 127
 New Zealand, Sheep in, 24

OBJECTS OF SOCIETY, lxxxiv
 Officers, List of, lxxxix
 Officials, Honorary, xciv
 Orchards, 162
 Osiers, 79
 Ownership *versus* Tenancy, 40
 Oxford Down Sheep, 19

PASTURE LAND, STOCKING OF, 195
 Penberthy, Professor J., F.R.C.V.S.,
 appointed Veterinary Inspector,
 107
 Permanent Officials, xciv
 — Pasture, 120
 Pigs, Prizes awarded to, xlix
 —, Prizes for, in 1908, cxv
 Plantations at National Cider Institute,
 163
 Plowman, T. F., Annual Report, 104
 — —, In Memoriam of Capt.
 The Hon. J. C. Best, 1
 — —, on Exhibition at Newport,
 126
 Ponies, Prizes awarded to, x
 Poultry Experiments, 49
 —, Prizes awarded for, lxxi
 —, Prizes for 1908, cxxx
 — rearing Districts, 36
 — Regulations, cxxxiii
 Privileges of Membership, lxxxiv
 Prize Awards, 1907, iii
 Prizes at Dorchester, clii

Prizes at Newport, 127
 — in 1908, civ
 Produce, Prizes for, in 1908, cxvii

RAWLENCE, E. A., ON EXPERIMENTS
 FOR PERMANENT PASTURE, 120
 Regulations for Live Stock, cxxi
 —, Poultry, cxxxiii
 Report of Consulting Botanist, 165
 — of Consulting Chemist, 165
 — of Experiment upon the pro-
 duction of Mutton, by W. Ashcroft,
 109

SAMPLES, HOW TO TAKE FOR ANALYSIS, xcix

Season of 1907, 110
 Separator, The, 58, 101
 Sheep, Black-faced, 20
 — in Argentina, 23
 — in Australia, 24
 — in Austria-Hungary, 265
 — in Canada, 25
 — in France, 26
 — in Germany, 25
 — in Holland, 25
 — in New Zealand, 24
 — in United States, 24
 —, Increase of live weight in experi-
 ments, 111
 —, Monthly gain of, 110
 —, Prizes awarded to, xli
 —, Prizes for, in 1908, cxiii
 Sheep Stocks of the World, A. T.
 Matthews on, 6
 Sheldon J. P., on Dairy Farming,
 Fifty years ago and now, 86
 Shoeing, Prizes awarded for, lxxviii
 —, Prizes for, in 1908, cxx
 Shropshire Sheep, 19
 Silver-Fir Forests, 68
 Small Holders, W. E. Bear on Pros-
 pects for, 29
 Small Holdings and Allotments Act, 29
 — in Denmark, G. E. Lloyd
 Baker on, 45
 — —, Six Classes of, 33
 — —, Successful, 33
 — —, Unsuccessful, 37
 Society, Laws of the, lxxxvi
 —, Objects of the, lxxxiv
 Soft Cheese Making, 221
 Soils of Dorset, Review, 223
 Soils on the Chalk, 224
 Southdown Sheep, 16
 Speir J., on Milk Records, 177
 Splicing, Prizes awarded for, lxx

- Starter in making Cheese and Butter, 101
 Sterility in Cows, 167
 — in Mares, 167
 Stewards, xciv
 Stilton Cheese Districts, 35
 Stocking of Pasture Land, 195
 Suffolk Down Sheep, 20
 Sweet Chestnut Coppice, 80
 Sweet Peas and their Cultivation, Review, 214
 Swine Fever, 196

 TAINTS IN MILK, 221
 Tanning Bark, 78
 "Teg," 11
 Terms of Membership, lxxxv
 Timbering, Prizes awarded for, lxx
 Timber, Price of, 74

 Trustees, lxxxix
 Tuberculosis, 103
 — in Cattle, 184
 —, Veterinary Aspect of, 203

 UNITED STATES, SHEEP IN, 24

 VENTILATING THE CHURN, 58
 Veterinary Aspect of Tuberculosis, 203
 Veterinary Inspector, 107
 Vice-Presidents, lxxxix
 Voelcker, Dr. J. A., Annual Report, 165

 WENSLEYDALE LONG-WOOL SHEEP, 16
 Woburn Experimental Fruit Farm, 219
 Wool, 27

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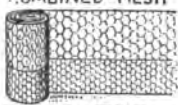
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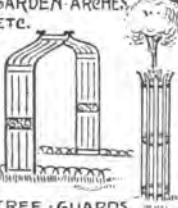
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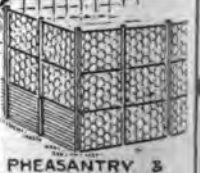
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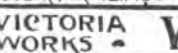
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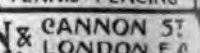
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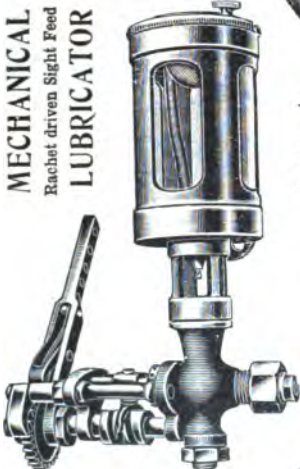
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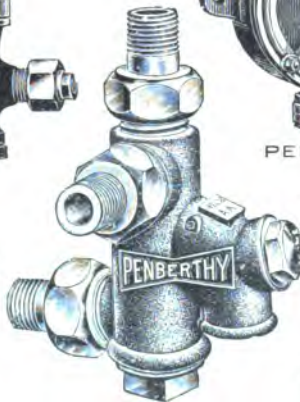
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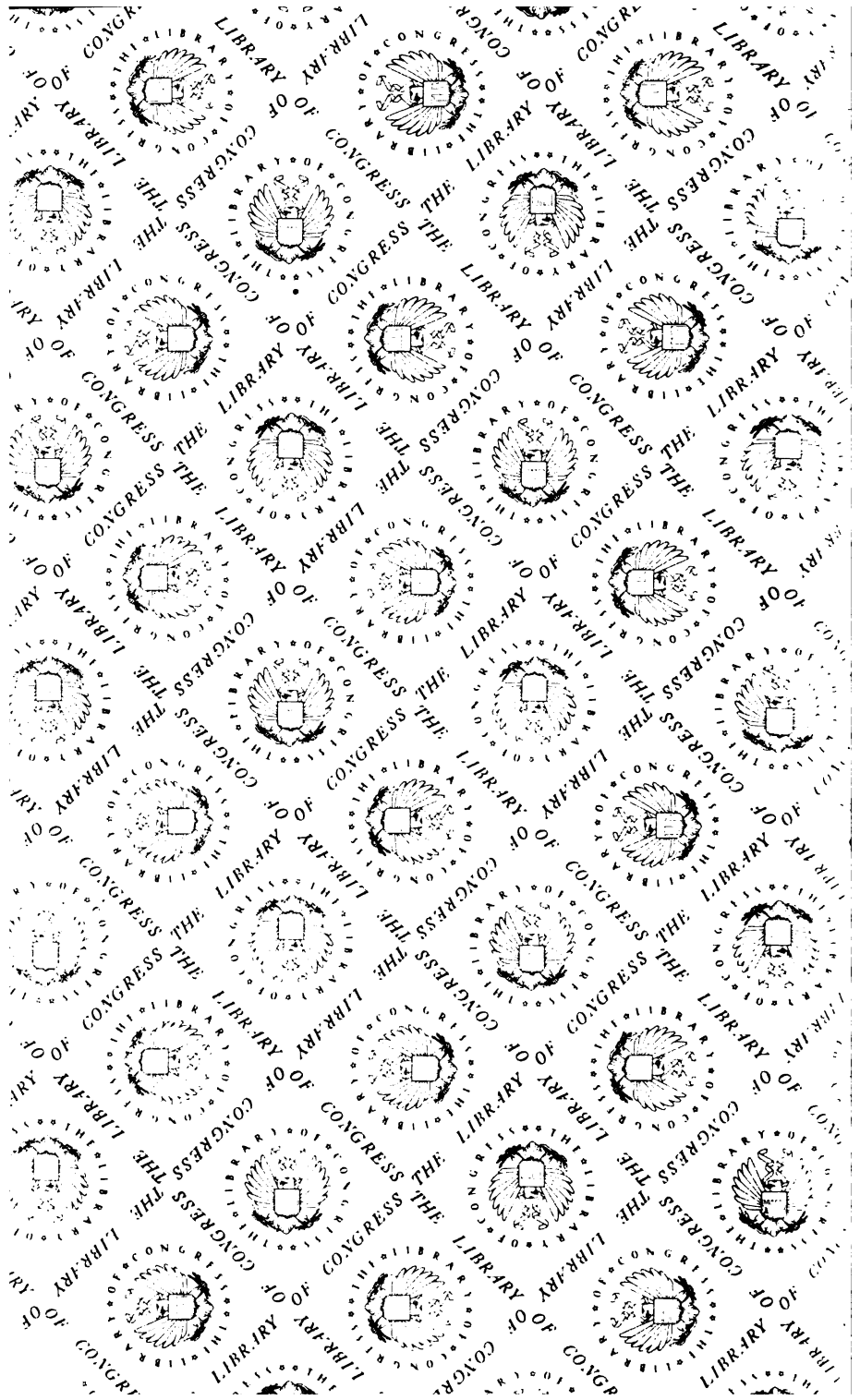
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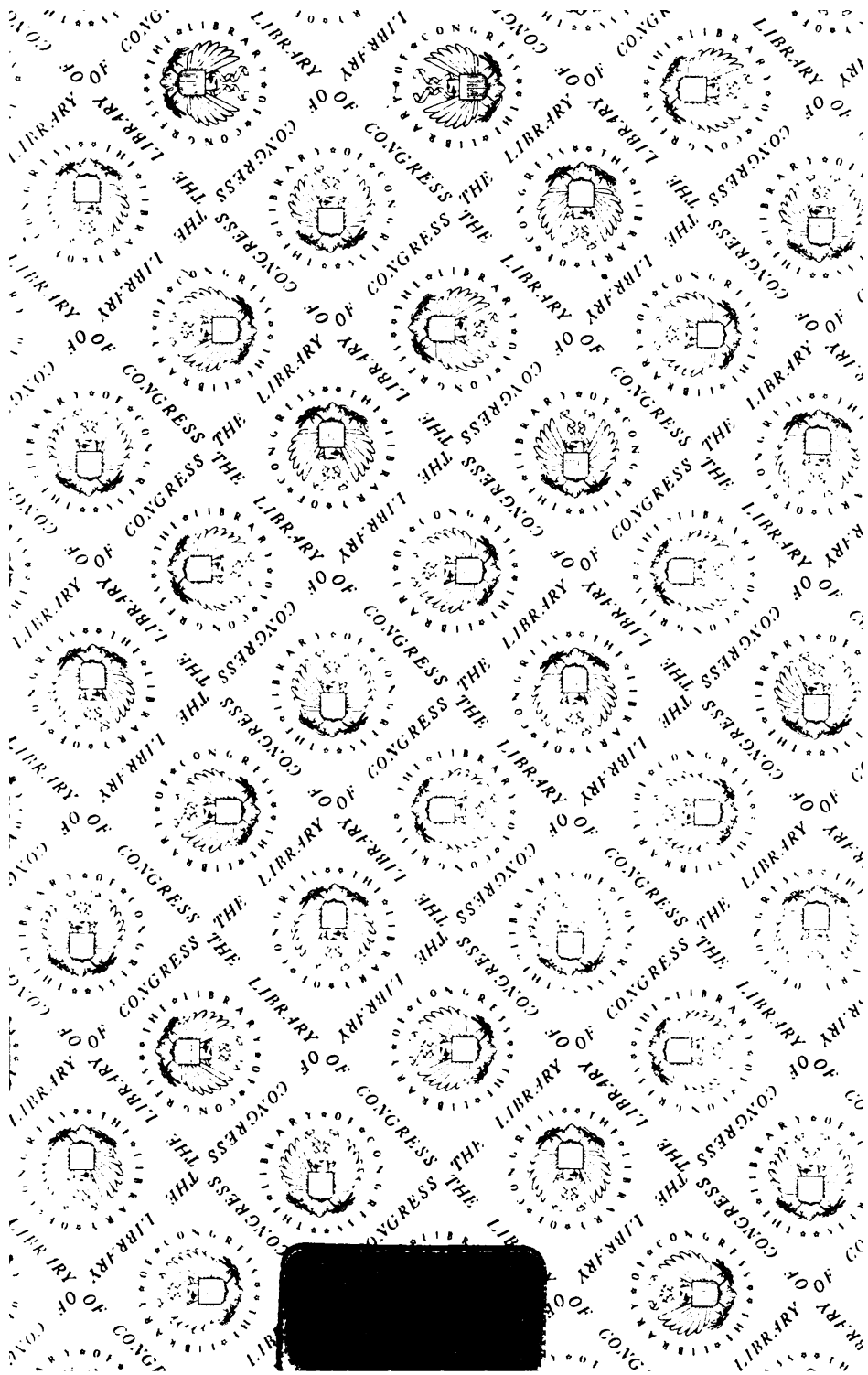
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